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LECTURES
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AT
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LECTURE XLVI.

NARCOTICO-ACRID POISONS:—*Character of the effects produced by them. Their mode of operation; their classification. Diagnosis of diseases with which poisoning by them may be confounded. Time of a fatal result from it.* BELLADONNA:—*Botanical characters of the deadly nightshade. Poisoning with belladonna. Cases. Symptoms. Post-mortem appearances.* DATURA STRAMONIUM:—*Idem. Treatment.* TOBACCO:—*Idem. Smoking, snuffing, and chewing. Its principles; nicotina and the empyreumatic oil. Experiments of Sir B. Brodie on the manner in which the infusion of tobacco operates. Treatment.* CONIUM MACULATUM:—*Botanical characters of the hemlock. The state-poison of the ancients. Death of Socrates. Conia the active principle of conium. Operation of conia. Symptoms of poisoning with conia. Post-mortem appearances. Treatment.*

GENTLEMEN:—I have now to direct your attention to

NARCOTICO-ACRID POISONS.

This class of poisons is so named because it combines the influence of the two former classes. They operate topically, like the acrid poisons, upon whatever tissue they are applied to, and this is either accompanied with, or followed by, narcotic symptoms.

In some instances the irritant influence is scarcely obvious; and in no case is that powerful, organic change displayed upon the stomach after death, which is the result of the action of the acrid poisons. The narcotism is usually of a comatose character, and is often attended with delirium, occasionally of a high kind; but, in some instances, neither coma nor delirium are present, and the influence of the poison on the nervous system is displayed by violent tetanic spasms, which destroy the respiratory function, and thus cause death.

The topical influence of this class of poisons is never so severe as to cause death, the fatality in every instance depending on their action on the nervous system. In large doses their narcotic influence is so powerful, that the habit does not suffer from the irritation which is the result of their topical action; in small doses their narcotic influence is scarcely perceived, and their topical action is more striking.

The greater number of the poisons of this class contain some peculiar alkaline principle, which is their active agent, and which, being separated by the process of digestion, is carried into the circulation, but the manner in which they affect the nervous system ultimately is not well understood, although the peculiar and decided influence which they exert on distinct organs, leads to the belief that they operate by being conveyed to the part on which their poisonous property is calculated to act, and not by any peculiar influence exerted on the inner membrane of the blood-vessels, and thence conveyed along the nerves, as has been conjectured by some physiologists. Some of them operate chiefly on the brain, others solely on the spinal cord; and the influence of a few seems as if it were confined to the heart.

It might be supposed that some of those agents, which have already been treated of as belonging to the class of acrid poisons, should be placed in this class; but their principal influence being that of very powerful acrids, and inflammation and organic changes being the principal features of their action, whilst the most prominent features of the poisons of this class is their narcotic influence, the propriety of separating them is obvious.

All the poisons of this class are vegetable substances.

The diagnostic characters by which the

influence of the narcotico-acrids is to be distinguished from diseases, are the same as those of the narcotic poisons, with the exception that the narcotism which the narcotico-acrids cause by a single dose, is, in many cases, distinguished from disease, with greater difficulty, owing to the symptoms being more permanent, and continuing for several days at a time. The effect of some of them, especially of those which cause tetanic spasms, is so peculiar, that it is not very likely to be confounded with disease.

The time which the narcotico-acrid poisons require to produce their fatal issue, differs more among the substances they include than in any other class of poisons. With some the course of symptoms terminates before ten or twelve hours; and if that time is exceeded they rarely prove fatal: in other instances the narcotism may continue for thirty-six hours, and ultimately prove fatal; whilst in a third set, in which the poison seems to accumulate in the system, the fatality may be protracted two or even three weeks.

The class may be divided into four groups, or sub-classes, namely,—

1. Comprehending those substances which cause delirium.

2. Those in which no delirium is present.

3. Those in which delirium or tetanus are the most striking symptoms according to the extent of the dose.

4. Those in which the delirium is a prominent feature, but in which the topical influence is more obvious upon the affected tissues than in the other groups.

BELLADONNA.

In the first group of the narcotico-acrid poisons we find the *deadly nightshade*, atropa *belladonna*.

As the whole of this plant possesses poisonous properties, its botanical characters should be well understood. It is an indigenous plant, belonging to the natural order *Solanaceæ*. In Great Britain it is usually found growing in shady places. The root, which, according to Buchner, is the most poisonous part of the plant, is referred to by Shakspeare, under the name of "Insane root:"—

> "Have we eaten of the insane root,
> "That takes the reason prisoner?"

It is thick and branching; the stems, which are annual, rise to the height of from three to five feet, are cylindrical, smooth, and branching, and bear alternate leaves, which are of a dull green hue, almost always eaten by insects, ovate and smooth, or slightly pubescent: the flowers, which are solitary, are supported on peduncles and axillary. The sepal is of one piece, campaniform, and five times divided: the corolla is, also, of one piece, divided into five equal lobes, of a deep, lurid-violet hue. The stamens are five, shorter than the corolla; the stigma is flattened, supported on a style rising from a two-celled, polyspermous ovary, surrounded by a yellow hypogynous disk. The fruit, which resembles a berry, is of a deep, shining black colour, about the size of a small cherry, and seated in the calyx, which is persistent. The whole plant impresses a peculiar clammy feeling to the hand on touching it.

The poisonous properties of belladonna seem to have been very early known, and in modern times, the attractive appearance, of the berries has often induced children to eat them; and fatal accidents have also resulted from the berries having been employed to colour wine.

Gmelin has quoted an instance of intentional poisoning from mixing wine with the juice of the berries; and it was by the deleterious effects of such a mixture on the soldiers of Sweno, which enabled Macbeth to gain the decisive victory which he did over the Danes. Macbeth, hearing that the Danes were in want of provisions, sent wine and bread to their camp, "not only of the grape," says Buchanan, "but of barley,"—ac succo infecti herba cujusdam veneficæ cujus magna copiam in Scotia nascitur, vulgo solanum somniferum vocant. He describes the plant and its effects.

M. Gaultier has recorded an instance of one hundred and fifty soldiers having been poisoned by them near Dresden: they were affected with dryness of the throat, some difficulty of deglutition: dilated pupils, with the eyes red and prominent, and obscure vision. I have observed complete temporary blindness to result from the administration of the extract as a medicine; and in every instance, after it has been administered for two or three days, dryness of the throat is a most striking symptom of its influence on the habit. It is said that the pupil is not always dilated, even when vertigo, delirium, and hallucinations are present.

The usual symptoms of poisoning by belladonna are dryness of the mouth and throat, vertigo, delirium of a kind resembling intoxication, accompanied with hallucinations, fits of laughter, and violent gesticulations; dilated pupils and injection of the conjunctiva; nausea; often the defect of power to articulate sounds; occasionally convulsions, but more generally sopor and lethargy, which occasionally alternates with the delirium, both being sometimes intermittent. Instead of delirium symptoms closely resembling somnambulism occasionally display themselves. Dr. Christison has alluded to a case of this kind, in the twenty second volume of the "Journal Universel," of a tailor who was poisoned by an injection of belladonna, and who, for fifteen hours, during which he was insensible to external objects and speechless, went through the customary operations of his trade with great

vivacity, moving his lips as if in conversation.

The long-continued administration of small doses of the extract of belladonna causes a redness of the skin, closely resembling the eruption of scarlatina; but in none of the recorded cases of poisoning by it is such a symptom noticed.

Although, as I have said, convulsions are rare, yet lock-jaw, subsultus tendinum, and occasionally chorea, or, at least, symptoms closely resembling it, have occurred. Stranguary and suppression of urine have also occurred.

In the post-mortem examination of the body, the most striking circumstance is the rapid decomposition of the body;—putrefaction begins in less than twelve hours after death. The blood vessels of the head are gorged, and the stomach and intestines show the marks of inflammation. The best mode of averting the fatal effects of this poison is to exhibit emetics of sulphate of zinc, or of copper, assisting their operation by irritation of the fauces; then evacuating the bowels by active purgatives and glysters; and following these by large doses of vinegar or other vegetable acids.

DATURA STRAMONIUM.

Datura is a genus of plants, natives of tropical climates, and belonging to the natural order, *Solanaceæ*, which possess virulent poisonous properties. One of the species, the D. *stramonium*, has been so long known as a weed in this country, that it has been regarded as an indigenous plant, even by the distinguished Ray; but that it was brought into Great Britain from Turkey, is more generally believed.

It is an annual plant, flowering in July and August. The root is woody and fibrous; the stem, which rises to the height of from two to three feet, is cylindrical, smooth, branching in the manner which botanists term dichotomous, and spongy or hollow within: the leaves are large, alternate, upon footstalks, irregularly ovato-triangular and sinuated, of a dark green in the upper, and a paler green on the under disk. The flowers are trumpet-shaped, large, axillary, solitary, on short peduncles, of a white colour; the calyx monosepalous, tubular, five-toothed, and pentangular, separating with the corolla, except the base, which is permanent. The filaments of the anthers adhere to the corolla, and support oblong, flat anthers. The style, which rises from a quadrilocular ovary, supports a bilobed stigma. The fruit is an ovate, spinous capsule, about the size of a walnut, four-celled at the base, but only two-celled above, inclosing many dark brown, reniform seeds, rough on the surface.

The whole of the plant is poisonous, exhales a fœtid odour, and impresses a bitter, acrid taste on the palate. Many other species of datura, especially D. *fatula*, possess equally powerful poisonous properties. They were supposed to form a kind of secret poison, which was prepared in India, and was said to kill at any time the poisoner pleased, at the termination of days, months, or years, a story little credible, but which demonstrates the belief in the well-known poisonous properties of these species of datura. The natives of Batavia made a fermented liquor from them which caused furious intoxication.

Datura *stramonium* is poisonous, whatever part of the plant is used.

Some young soldiers in Jamaica, reports Beverley, in his history of that island, ate plentifully of the herb as a boiled salad, "which produced," says he, "a very pleasant remedy, for they turned natural fools upon it for several days. One would blow up a feather in the air, another would dart straws at it with great fury; another, stark naked, was sitting up in a corner, like a monkey, grinning and making mouths at them; a fourth would fondly kiss and paw his companions, and sneer in their faces with a countenance more antic than any in a Dutch doll. In this frantic condition they were confined, lest in their folly they should destroy themselves." In eleven days they recovered, unconscious of anything which had passed.

A man and his wife, who were both rheumatic, consulted a druggist, who recommended them to take an infusion of Datura *stramonium*. A strong infusion was made, and the wife took a cupful of it on going into bed, and five minutes afterwards the husband took a similar quantity, and went to place himself in bed, when he found his wife powerfully agitated, making singular movements, her eyes fixed and staring, and unable to reply to the questions put to her. At that moment, as she afterwards related, she felt as if a fire had mounted to her head, and also affected her stomach. The husband became sick, and vomited; after which he wished to go out to get assistance for his wife, but he had scarcely gained the door of the room ere he felt so enfeebled that his knees bent under him, and he was forced to sit down, but in a few seconds he fell senseless to the ground: on recovering he vomited repeatedly, was greatly agitated, became torpid, with a lethargic tendency, and lost for some time all sense of feeling. These symptoms continued eight hours with the husband and thirteen with the wife, and the latter was afterwards affected with gastric irritation, which continued nearly a month. Cases have occurred in which injections of the infusion of the plant caused the same effects.

Another case occurred at Brentford, which you will find detailed in the lecture of Dr. Sigmond, on Materia Medica, in The Lancet of May the 27th, this year. In this

case there was no nausea, nor inclination to vomit, and paralysis of the limbs supervened; furious delirium also succeeded to the stupor and insensibility, and rose so high that two people were required to keep the patient in bed; and during its continuance he caught at the by-standers with his hands, and uttered incoherent sentences. After alternate attacks of delirium, with intervals of quiet, he recovered. A case, also, was brought into the Northampton Infirmary. A woman had drank two cupfuls of infusion of stramonium instead of senna, but the early use of the stomach-pump prevented the symptoms of poisoning, which were fully developed, from running their course.

I have never seen a case of poisoning by the herbaceous part of stramonium; but I witnessed a case of poisoning by the extract given in an overdose, namely, six grains. The symptoms were dryness of the mouth and throat, with difficulty of deglutition, the abdomen swelled and tender; the face swollen; the pupils dilated, with loss of vision; the speech incoherent, owing chiefly to a convulsed condition of the lower jaw: the right side was paralyzed. Gastric symptoms and severe cephalea remained for many days.

I was also called in to see the child of Dr. DAFFIN, two years of age, who swallowed about sixteen grains of the seeds, and died from the influence of the poison. After evincing some irritability of temper, accompanied by general itching of the skin, in about an hour flushed countenance, wildness of manner, suffused eyes, maniacal expression, ineffectual efforts to vomit, came on, incoherent and rapid utterance, and striking at imaginary objects which seemed to terrify her. She then became furiously delirious, struck, pinched, and attempted to bite, without any intervening object. Within two hours and a half her power of utterance and voice were lost, she had a sonorous, croupy, barking cough, and incapability of deglutition; these symptoms excited a suspicion of hydrophobia, which was removed by the vomiting from the stomach of some of the seeds. She became insensible; the voluntary power of the muscles was lost; the limbs were violently agitated by spasmodic twitching and jactitation, alternating with short paroxysms of tetanic spasm. The pupils were dilated during the whole stage, the pulse was almost imperceptible from the first, but, so far as it could be felt, was natural as to velocity; in about three hours coma supervened, but the convulsive twitching and jactitation alternating with spasmodic motions of the hands and arms remained. The muscles of the face were never affected by the spasms, nor the expression of the countenance at any time distorted. The comatose stage lasted about two hours; a tympanitic state of the bowels presented itself; the belly became tense; she had a stage of excitement and one of collapse; and, after exhibiting a train of symptoms which cannot fail to remind the reader of those that occur in hydrophobia, she died, exactly twenty-four hours after swallowing the seeds. Emetics of ipecacuanha, of tartarized antimony, and of sulphate of zinc, were uselessly tried; from the insolubility of the substance swallowed, the stomach-pump was not employed. Twenty seeds were dislodged by the vomiting. Castor oil was given, and an enema administered. Calomel and jalap were required before the bowels unloaded themselves, and upwards of eighty seeds were thus brought away. Cloths dipped in cold water, and leeches were applied to the temples during the comatose stage, and the child was also immersed in the warm bath.

When I saw the infant, after these active measures had been taken, I was induced to recommend a trial of calcined magnesia, in half scruple doses, with four minims of liquor potassæ, with the hope of neutralizing the active principle of the poison, but these means were without any beneficial effect.

On opening the body, on the morning following the day on which the child died, no portion of the poison, not a single seed, was found in the alimentary canal; there was a slight inflammatory blush pervading the pharynx and œsophagus, to about one-third of their extent, and a very distinct vascular band, about half an inch broad, appeared at the junction of the œsophagus with the pharynx; the inflammation had extended into the larynx, and the rima glottidis was thickened and very turgid. In every instance in which the seeds have been taken in poisonous doses, the condition of the brain has resembled that in the child of Dr. DUFFIN; but in some the derangement has amounted to idiotcy. HEIM relates a case in which two children had eaten freely of the seeds; the effects were drowsiness, great heat of the body, furious delirium, swelling of the abdomen, constriction of the fauces, convulsions, and symptoms resembling those of hydrophobia. Many more examples of the poisonous influence of stramonium might be quoted from the works of KEEMPFER, GMELIN, MURRAY, BIGLOW, and others, but these are sufficient to demonstrate its deleterious power.

The poisonous properties of stramonium depend on a vegetable alkali, which was discovered by MM. GEIGER and HESSE, and named *daturia*. It is combined with the malic acid in the plant. It is procured in the form of colourless prisms, very brilliant and grouped, of a bitter taste, and acrid like tobacco, very little soluble in water, as it requires 224 parts of that fluid at 60° to dissolve one part of *daturia*, and 72 parts at 212°. It is not very soluble in ether, but very soluble in alcohol; it forms salts with

the acids, and produces the same effects as belladonna upon the pupil. The infusion of the plant forms precipitates with the salts of lead, silver, mercury, and iron; but these results throw no light on the mode of detecting the presence of the poison, which can be known only by the symptoms.

In cases of poisoning by stramonium, our first object, if we are called in early enough, is to evacuate the stomach by means of the stomach-pump, or direct emetics. To relieve the brain, cupping behind the ears has proved beneficial, and sinapisms may be applied to the feet and legs. If our assistance is not called for until the narcotic symptoms have been fully developed, emetics are useless, and the case must be treated as one of poisoning by a simple narcotic.

TOBACCO.

Tobacco, the dried prepared leaves of the nicotiana *tabacum*, and those, of all the species of the genus, possess poisonous properties, although they are almost universally employed as articles of luxury in every part of the world. It is unnecessary to describe the plant, for our purpose, as it is only the dried leaves, and the preparations of them, that have proved poisonous. The recent plant, however, is equally poisonous.

Tobacco has been, and still is, employed in a great variety of forms, smoking, snuffing, and chewing, and in medicine it is employed as a topical application to the surface, and in the form of enemata. In all of these modes of using it, deleterious consequences, more or less serious, have ensued.

The symptoms caused by smoking, in those unaccustomed to the use of tobacco, are nausea, vomiting, syncope, stertorous breathing, insensibility of the pupil; symptoms indicating the powerful influence of the volatile principles of the tobacco on the nervous energy. Cases of death have occurred from smoking. GMELIN relates two instances, in one of which seventeen pipes, and in the other eighteen, were smoked at the sitting; indeed, in Germany, many deaths have been traced to the abuse of smoking. In America children smoke at a very early age, and often fall victims to the custom. In the "Massachussets Newspaper" is a notice of the death of a "Master JAMES BERREY, aged twelve, a promising youth, whose early death is supposed to have been brought on by excessive smoking of cigars."

The smoke of tobacco thrown into the rectum is more poisonous than when it is inhaled by the mouth. When it operates as a poison it causes paleness of the countenance, vomiting, cold clammy sweats, extreme sinking of the powers of the system, and death.

Snuffing is less deleterious than smoking, and I am not aware of any really poisonous effects which have resulted from it, and I have seen it taken to the greatest excess. One of the greatest snuffers that I ever knew, was ARTHUR MURPHY, the elegant translator of "Tacitus," and celebrated dramatist. I have seen him sitting in his study with a large china basin of snuff on the table, from which he took a quantity sufficient nearly to cover the palm of his right hand, and from that part he drew it into his nostrils. He lived to an old age, and did not appear to have suffered from the custom. SANTEUIL, the celebrated French wit, was killed by a considerable quantity of snuff being mixed with his wine.

Chewing tobacco, even in small quantity, is hurtful to digestion; yet such is the influence of custom, that the women in the province of Varinas, in South America, carry the inspissated juice of the prepared tobacco in a small box, which they wear like a watch, suspended to one side at the end of a string. Instead of a key, it is furnished with a little spoon, with which they help themselves from time to time of this juice, relishing it in their mouths like a sweetmeat.*

The internal use of tobacco, in whatever way it is taken, when overdosed, is most hazardous. Many fatal cases are recorded in which the tobacco enema has proved fatal. In the "Edin. Med. and Surg. Jour." is a case related by the physician who ordered the enema. "I suggested," says he, "a glyster of the infusion of tobacco, in the proportion of 3ij. to f℥viij. of boiling water. No sooner was it administered than the patient, a young man, was seized with something like convulsions, became speechless, and died in less than two hours. I could not obtain leave to inspect the body." I once witnessed a case of the most alarming collapse, caused by the common tobacco enema, but it did not prove fatal. In almost every instance it makes the patient sick, causes fainting and cold sweats, and alarming sinking of the pulse, and generally instantaneous relaxation of spasm, if any exist. Nearly the same deleterious effects result from the external application of tobacco in the form of cataplasm or lotions. I once saw very alarming symptoms caused by the application of the infusion in a case of porrigo scutulata. The symptoms were similar in every respect to those caused by the tobacco enema when it is too strong.

There are two distinct principles in tobacco, to which its medicinal and poisonous properties are to be ascribed: one an alkaline principle; the other an empyreumatic oil.

Nicotina was discovered by Dr. CERIOLI, of Cremina, and its nature investigated by MM. POSSELT and REIMANN. It is a liquid alkali, usually of a yellow colour, but colourless when it is pure; it has an odour resembling that of tobacco, and of an acrid,

* Columbia, vol. ii., p. 116.

burning, and permanent taste; it is very soluble in water, and more so in æther, which takes it up from its aqueous solution; it has a distinct alkaline reaction; one drop of it will kill a dog.

The empyreumatic oil is of a dark-brown colour; has the strong colour of tobacco smoke, and the bitter, acrid taste also of the plant: it operates upon the habit, nearly in the same manner as large doses of alcohol; both these principles are contained in the infusion; the oil operates on the nervous system, and the nicotina on the irritability of the heart. A very striking instance of the energetic powers of the oil is detailed by M. Barrow, in his "Travels at the Cape." A hottentot touched the tongue of a serpent with a drop of this oil, from the tube of his tobacco-pipe. The effect was instantaneous as an electric shock: with a convulsive motion which was involuntary, the snake half untwisted itself, and never stirred more; the muscles were so contracted that the whole animal felt hard and rigid, as if dried in the sun.*

The experiments of Sir B. Brodie throw much light upon the manner in which the infusion operates:—

"*Exp.* 1. Four ounces of infusion of tobacco were injected into the rectum of a dog; four minutes afterwards he retched, but did not vomit; he then became faint, and lay motionless on one side. At the end of nine minutes from the time of the injection the heart could not be felt; he then gasped for breath, at long intervals; and in another minute there was no appearance whatever of life. I immediately laid open the cavities of the thorax and abdomen; the heart was much distended, and had entirely ceased to contract; there was no peristaltic motion of the intestines.

"*Exp.* 2. Three ounces of infusion of tobacco were injected into the rectum of a dog. Immediately there took place tremulous contractions of the voluntary muscles. Five minutes afterwards, the injection was repeated in the same quantity; the dog then was sick, and threw up some of the infusion, with other matter, from the stomach; he then became faint, and died ten minutes after the second injection. Immediately after respiration had ceased I opened the thorax, and found the heart extremely distended, and without any evident contraction, except of the appendix of the right auricle, which every now and then contracted in a slight degree. I divided the pericardium on the right side: in consequence of the extreme distension of the heart, this could not be done without irritating the fibres with the point of the scalpel. Immediately both auricles and ventricles began to contract with considerable force, so as to restore the circulation. Artificial respiration was produced, and the circulation was kept up for more than half an hour, beyond which time the experiment was not continued.

"We may conclude from these experiments, that the effect of the infusion of tobacco, when injected into the intestines of a living animal, is to destroy the action of the heart, stopping the circulation, and producing syncope. It appears to me, that the action of the heart ceases even before the animal had ceased to respire; and this was confirmed by another experiment, in which in a dog killed by the infusion of tobacco, I found the cavities of the left side of the heart to contain scarlet blood, while in those of the right side the blood was dark coloured. This poison, therefore, differs materially from alcohol, the essential oil of almonds, and the juice of aconite, which have no direct influence on the action of the heart. The infusion of tobacco renders the heart insensible to the stimulus of the blood; but it does not altogether destroy the power of muscular contraction, since the heart resumed its action, in one instance, on the division of the pericardium; and I have found that the voluntary muscles of an animal, killed by this poison, are as readily stimulated to contract by the influence of the voltaic battery, as if it had been killed in any other manner. At the same time, however, that the infusion of tobacco destroys the action of the heart, it appears to destroy, also, the functions of the brain, since these did not return in the last experiment, although the circulation was restored and kept up by artificial respiration.

"Since there is no direct communication between the intestinal canal and the heart, I was at first induced to suppose that the latter becomes affected in consequence of the infusion being conveyed into the blood by absorption. Some circumstances, in the following experiment, have since led me to doubt whether this is the case:—

"*Exp.* 12. In a dog, whose head was removed, I kept up the circulation by means of artificial respiration, in the manner already described in the account of some experiments which I lately communicated to this Society. I then injected into the stomach and intestines nine ounces of infusion of tobacco. At the time of the injection, the body of the animal lay perfectly quiet and motionless on the table; the heart acted regularly, one hundred times in a minute; ten minutes afterwards the pulse rose to one hundred and forty in a minute; the peristaltic motion of the intestines was much increased, and the voluntary muscles in every part of the body were thrown into repeated and violent spasmodic action; the joints of the extremities were alternately bent and

* Travels in Africa, p. 208.

extended; the muscles of the spine, abdomen, and tail, alternately relaxed and contracted, so as to throw the whole animal from one side to the other. I have observed in other instances spasmodic actions of the muscles, where the circulation was kept up by artificial respiration, after the removal of the head, but not at all to be compared either in strength or frequency with those which took place on this occasion. I made pressure on the abdominal aorta for more than a minute, so as to obstruct the circulation of the blood in the lower extremities, but the muscular contractions were not lessened in consequence. Half an hour after the injection of the infusion, the artificial respiration was discontinued. The heart continued to act, circulating dark-coloured blood; the muscular contractions continued, but gradually diminished in strength and frequency. I tied a ligature round the vessels at the base of the heart, so as to stop the circulation, nevertheless the muscular contractions still continued, though less frequent and forcible than before, and some minutes elapsed before they entirely ceased. In this experiment, the disposition to contraction in the muscles was very much increased instead of being diminished, as in those just related. If the infusion of tobacco influences the heart from being absorbed into the blood, and thus coming into actual contact with its fibres, there is no evident reason why the removal of the brain, and the employment of artifical respiration, should occasion so material a difference in its effects. If the contractions of the voluntary muscles had depended on the infusion circulating within the blood, it is reasonable to suppose that the pressure on the aorta would have occasioned some diminution of them, and that the complete obstruction of the circulation would have caused them to cease altogether.

"From these considerations I am induced, on the whole, to believe that the infusion of tobacco, when injected into the intestines, influences the heart through the medium of the nervous system; but I have not been able to devise any experiment by which the truth or fallacy of this opinion might be put beyond reach of doubt.

"It appears remarkable that the brain and nervous system, although not necessary to the action of the heart, should, when under the influence of the infusion of tobacco, be capable of influencing this organ so as to stop its action; but this is analogous to what we see occur in consequence of violent emotions of the mind. Those states of the nervous system which accompany the passions of joy, fear, or anger, when existing in a moderate degree, render the heart more sensible to the stimulus of the blood, and increase the frequency of its contractions, while, when the same passions exist in a greater degree, the heart is rendered altogether insensible to the stimulus of the blood, and syncope ensues."

In the administration of nicotina to a guinea-pig, you have seen that little effect is produced for a few minutes; the animal then becomes, as it were, torpid for a minute more, after which tremors of all the limbs take place, and the animal rolls over and over for some time. It then recovers itself for a few seconds, when violent tetanic convulsions follow, accompanied with the most acute sensibility of the surface, so that the smallest touch upon any part of the body renews the convulsive movements; and, although the hind legs are paralysed, yet the animal starts up upon its feet, but instantly falls again, owing to the state of the hind legs. This state, in the animal on whom we have experimented, continued for nearly an hour, after which it regained the use of its limbs; the morbid sensibility of the skin subsided; and in two hours it was as well as ever.

From these phenomena it is evident that nicotina is taken into the circulation, and operates on the cerebellum and spinal cord. The sensibility of the skin always attends powerful excitement of that portion of the nervous system, which is, in fact, the cause of it in hydrophobia.

In the treatment of cases of poisoning by tobacco, the rapidity of the action of the poison leaves no time for the application of the stomach-pump or emetics; it is, therefore, of the first importance to neutralise the poison as rapidly as possible, and this, so far as concerns the nicotina, is readily effected by the infusion of galls, or of any vegetable astringent. The tannic acid combines with the nicotina, and forms an insoluble salt. This is easily demonstrated by pouring some infusion of galls into a solution of nicotine in water, or into an infusion of tobacco; the result you observe is very striking (the lecturer performed these experiments). The next object is to rouse, as rapidly as possible, the nervous energy, by the administration of such stimulants as will operate quickly, namely, ammonia, and such like. If, as I imagine, the deductions drawn from the experiments of Sir Benj. Brodie, by that distinguished physiologist, be correct, those excitants are most valuable which operate directly on the nervous, independent of the vascular system, as we are informed that the functions of the brain did not return in the second experiment which I have quoted, although the circulation was restored and maintained by artificial respiration. The administration of brandy, however, may aid the return of the circulation, whilst, at the same time, the powers of the brain and nerves are roused by ammonia.

CONIUM MACULATUM.

As many accidents, some of which have

terminated fatally, have occurred from this plant being mistaken, by ignorant people, for eatable plants, it is of importance to be acquainted with its botanical characters.

Conium *maculatum* is a biennial, indigenous plant, not uncommon in the neighbourhood of London, and all over the country, growing under hedges, and flowering in June and July. The root is fusiform, white, and hairy, marked with circular striæ, and exuding a milky juice when it is cut in the first year, which cannot be obtained in the second. The stem is herbaceous, and sometime rises five or six feet in height, very branching, striated, and presenting patches, or maculæ, of a brownish purple colour, and hollow. The maculæ are important characters, as I believe there is only one other indigenous umbelliferous plant which is maculated, namely, the Chærophyllum bulbosum, but this is readily distinguished by the root, the swelled joints, and the rough fruit. The leaves of conium are alternate, on sheathing petioles, the lower ones very large, and all supra-decompound, smooth, of a deep, shining, green colour on the upper surface, and a pale green on the under: the umbels are general and partial, the former consisting of from ten to twelve rays, with an involucre of four to eight short, turned down, lancet-shaped leaflets, with white edges spread at the base: the involucre of the partial umbel is a single, trifid leaflet. The flowers are white, small, composed of five petals, the outer larger than the inner, cordate and inflected; the stamens the length of the petals, with white, orbicular anthers; the styles two, diverging, with round stigmas. The fruit ovate, smooth, striated, and brownish when ripe. The whole plant, when it is rubbed between the fingers, exhales an odour resembling the urine of the cat.

All the parts of the plant are said to be poisonous; but, in Curtis's "Flora Londinensis," we are informed that a Mr. Alcerne ate the roots, both raw and boiled. But this is easily understood if the plant was in the second year of its growth, as the whole of the juice of the root is taken up for the nutriment and perfection of the plant, and the ripening of the seed, in the second year.

It is a curious fact, for the investigation of which we are indebted to Dr. Christison, that amongst the numerous instances, both ancient and modern, which are on record, of the poisonous properties of hemlock, there is much uncertainty whether Conium *maculatum* be really the plant referred to. Dr. Christison has, in my opinion, decided the fact that the cicuta of the Romans, and the *koneion* of the Greeks, the Athenian state-poison, the poison by which Socrates and Phocion died, is not the plant now before us, but was more probably the modern cicuta *virosa*, or some other umbelliferous plant, more resembling it than the conium *maculatum*. Our plant, it is true, grows abundantly in different parts of Greece, but, as Dr. Christison justly remarks, this is no proof of the identity of the ancient *koneion* and our conium *maculatum*. The evidence thus brought forward is supported by that of the effects of the Athenian state-poison, in the account given by Plato of the last hours of Socrates. After describing the manner in which the philosopher drained the cup,—"At length," continues the narrative, when he felt his limbs grow heavy, he lay down on his back, for so the man had told him to do. And at the same time the person who had administered the poison went up to him, and examined for a little while his feet and legs, and then, squeezing his feet strongly, asked whether he felt him do so? Socrates replied that he did not. After this the man did the same to his legs, and proceeding upwards in this way showed us that he was cold and stiff. And he approached him and said to us, that when the effects of the poison should reach the heart Socrates would depart. And now the parts about the lower belly were cold, when he uncovered himself (for he was covered up) and said, which were his last words:—"Crito, we owe Æsculapius a cock, pay the debt, and do not forget it." "It shall be done," replied Crito, "but consider whether you have anything else to say." Socrates answered not, but in a short time was convulsed. The man then uncovered him. His eyes were fixed; and when Crito observed this he closed his eyelids and his mouth.

"If this narrative," adds Dr. Christison, "be altered to a modern toxicological description, it is plain that the Athenian state-poison must be regarded as producing spasm and coldness of the limbs, gradually advancing to the internal parts, causing death eventually by acting either on the heart or the respiration, and without effecting the function of the mind even to the very last.

"Such a view of its action is altogether at variance with the effects usually ascribed in recent times to the spotted hemlock."—"It seems, also, not less at variance with the ideas entertained by the Greeks of the poisonous operation of their *koneion*." "It seems to me, also," adds Dr. Christison, "incompatible with the ascertained effects of every poison whatsoever, which is known in modern times; for I think it will puzzle the most learned toxicologist to point out any poison which has the property of occasioning coldness and stiffness of the limbs, proceeding gradually upwards, and proving fatal without causing either pain or sopor." I need scarcely say that any one who seriously investigates the subject must accord with this opinion; for my own part I agree

with my learned friend, that PLATO's description "is not a detail of facts, but an embellished narrative written for affect."

The active principle of conium was detected in 1831, by Professor GEIGER, of Heidelberg, and found to be one of those fluid alkaloids, volatile and oleaginous in their physical form, which modern chemistry has made known; the common aroma of conium depending on a volatile oil which is not poisonous. This alkaloid has been termed conia. "It has the appearance of a colourless volatile oil; is lighter than water; of a very powerful, diffusible, repulsive odour, somewhat like that of hemlock, and intensely acrid to the taste." It displays an alkaline reaction; is readily soluble in weak acids, which it neutralizes; but its salts are not crystallised. It imparts colour and taste to water, but scarcely dissolves in it. It is slowly decomposed when it is exposed to the air, and resolved into resin, with the disengagement of ammonia. According to LIEBIG, it is a compound of 66.91 parts of carbon, + 12.0 of hydrogen, + 8.28 of oxygen, + 12.8 of nitrogen.

The leaves yield it immediately before, or during the flowering of the plant; but it is ultimately deposited in the seeds, from which it can be obtained, whilst they are yet green. Dr. CHRISTISON procured ℥ij. from forty pounds of the seeds. It is a curious fact, that the dried leaves of the plants and some extracts do not yield it. Dr. CHRISTISON thinks that time impairs the extract rapidly, but he has given a mode of testing whether it is present, namely, rubbing the extract with potassa, when, if the conia be present, its odour is rapidly evolved.

If conia be the active principle of conium *maculatum*, it is well calculated to account for the activity of this plant: if it be the result of the process for obtaining it, chemical art is capable of producing one of the most energetic of known poisons. It acts through every tissue of the body where absorption is carried on, in the stomach, applied to the eye, introduced into the cellular tissue, or placed in contact with the peritoneum, or injected into the veins, or inhaled into the lungs. It seems to operate in the ratio of the absorbent power of the surface to which it is applied.

Conia operates as a local irritant, and to whatever tissue it is applied pain is produced; almost immediately afterwards paralysis of the voluntary muscles takes place; then of the respiratory muscles; and, lastly, of the diaphragm, which terminates in death by asphyxia. Convulsions, occasionally, but not always, take place. When the poison operates indirectly, the muscular contractility remains unimpaired; no change is produced on the blood, which, if withdrawn from the vessels, coagulates firmly after death. The heart itself is unaffected, for it contracts and pulsates strongly after death. The senses and volition remain until the breathing is nearly arrested.

Conia, according to Dr. CHRISTISON, operates in a manner the opposite to that of strychnia, which irritates the spinal, whereas "conia exhausts its nervous energy, producing general muscular paralysis, and asphyxia, from relaxation."

Five drops of conia, poured into the throat of a small dog, killed it in sixty seconds. Two grains injected into the femoral vein of a young dog, killed it, without the least warning struggle, in three seconds. A drop put into the eye of a rabbit, destroyed it in nine minutes; and three drops, introduced into the eye of a rat, killed it in a minute and a half.

When the poison acts slowly, the heart, after death, is found gorged, and contracting feebly or imperfectly; but when the action is swift, and asphyxia prompt and complete, the heart acts spontaneously with great force, even in the higher order of animals. In a rabbit, Dr. CHRISTISON has observed it acting spontaneously for thirty minutes, and it is excitable for sixty minutes.

Dr. CHRISTISON believes that absorption is connected with the action of conia, as its activity is in the ratio of the absorbing powers of the tissue to which it is applied. It has not been detected in the blood, but it acts with greatest rapidity when it is injected into a blood vessel, which supports the opinion that it enters the blood before it operates. Dr. CHRISTISON seems to think that conia produces, on entering the blood vessels, a peculiar nervous impression, which is conveyed by sympathy along the nerves to the organ remotely and ultimately affected.

The symptoms of poisoning by conium, either in the plant, or in the form of extract, as usually detailed by authors, do not altogether accord with those of conia observed by Dr. CHRISTISON. They are said to be drowsiness appearing about an hour after the poison has been eaten; headach, vertigo, insensibility to external stimulants; the pulse falls to thirty in a minute, the countenance becomes bloated, and the extremities cold; and these symptoms increase until death ensues. In some instances convulsions and paralysis have supervened; and in a case related by MATTHIOLUS, where a vine-dresser and his wife had eaten hemlock-roots for parsnips, they became so delirious, that they ran about the house frantically knocking themselves against everything in their way. KIRCHER relates that two monks, from the same cause, became raving mad, plunged into a pond, taking themselves for geese, and suffered long after from incomplete palsy and muscular pain. Dr. CHRISTISON, however, made

some experiments with extracts, prepared from the fresh leaves and the ripening seed, by absolute alcohol. The effects were paralysis of the voluntary muscles, with occasional slight convulsions, then paralysis of the respiratory muscles of the chest and the abdomen; and, finally, cessation of the action of the diaphragm. Thence he concludes, that the action of conia, and that of conium *maculatum* is identical; consequently, that conia is either the active principle of the plant, or is contained in it in a modified form.

The post-mortem examination of the body, in cases of poisoning by conium *maculatum*, displays considerable congestion in the brain. The blood is stated to be in a state of extreme fluidity, a fact at variance with the action of conia on the vital fluid. In a case mentioned in ORFILA'S work, communicated by a French surgeon, the blood which flowed from the congested vessels of the brain, twice filled an ordinary-sized chamber-pot, and was perfectly fluid.

In cases of poisoning by hemlock, the first object is to empty the stomach, by means of the pump, or emetics, and, afterwards, to treat the case as one of narcotic poisoning. It is of great importance to keep the body constantly in motion, and to dash cold water upon the head and chest. After the stomach has been evacuated, vegetable acids may be freely administered, in order to restore the tone of the stomach, but until the whole of the poison is evacuated the acids can be of no value.

LECTURES
ON
MATERIA MEDICA AND THERAPEUTICS,

NOW IN COURSE OF DELIVERY
AT THE
WINDMILL-STREET SCHOOL OF MEDICINE
BY
GEORGE G. SIGMOND, M.D.

LECTURE XXVII.

PRUSSIC ACID (concluded):—*Safe and unsafe doses. Its alleviation of phthisis; its irritation of the bowels; its efficacy in spasmodic diseases, dyspepsia, cutaneous affections, &c. Mode of administration.—Hydrocyanate of potash. The cyanuret of zinc.*

STRYCHNIA:—*The principle of nux vomica. Strychnic acid. Process for procuring strychnia and brucine. The alkali. The strychnos nux vomica tree; its characters. The nut. The upas, or poison tree, of Java. Its extraordinary locality. The Woorari poison, probably of this species. Darwin's poetical description of the upas. Orfila's experiments with the St. Ignatius bean. Poisonous action of the nux vomica. Its employment by the Arabians as a prophylactic. Murders, accidents, and suicides therewith.*

GENTLEMEN:— Although occasionally large doses of prussic acid have been taken, yet a very small dose, amounting to not more than two drops in twelve drachms of water, should be commenced with by the cautious practitioner. As the Pharmacopœia now directs that the medicinal acid should contain two per cent., we have less chance of meeting with those extraordinary variations in its strength, which rendered an apparently large dose harmless. Thus, an ounce of one sample was taken by a French medical man, and afterwards a drachm of a still stronger acid. VAUQUELIN'S acid contains 3.3 per cent.; SCHRADER'S 1 per cent.; ITTNER'S 10 per cent.; and ROBIQUET'S 50 per cent.

COULLON, whose inaugural Dissertation in 1808 was devoted to a consideration of the prussic acid, had tried a very extensive series of experiments on animals, and likewise upon himself. In the year 1819 his further observations were given to the public, and we learn that he has taken from twenty to eighty drops of the diluted acid, when symptoms supervened which were very distressing, and lasted about six hours. Amongst these salivation occurred. This has been observed, both by Dr. MACLEOD and Dr. GRANVILLE, as having taken place in cases which were under their respective treatment. It is not easy to ascertain what is the smallest fatal dose of hydrocyanic acid, though, as Dr. CHRISTISON observes, the cases of seven unfortunate persons who died in one of the hospitals in Paris, in consequence of their having taken by mistake too large doses of medicinal prussic acid, may enable us to form some idea, for as some of them did not die until forty-five minutes after they had taken it, it is not probable that a dose materially less would have a fatal effect on man. Each of them took twenty grains of the medicinal acid in the form of syrup, which ought only to have contained two-thirds of a grain of pure acid.

Dr. GRANVILLE has enumerated the diseases in which this remedy has proved successful; "its effects," he observes, "in almost every kind of cough, particularly of a spasmodic nature, are highly satisfactory. In hectic fever it affords ease, lowers the pulse, diminishes the number of paroxysms, works a favourable change in the action of the lungs and their circulation, whilst the morbid heat of the skin and the circular flushes of the cheeks gradually disappear. The night sweats are often suspended." He thinks that in confirmed consumption

the prussic acid, even at the approach of death, is the most advantageous palliative that can be employed. Recamier gave a trial of this medicine in the *Hôtel Dieu*, in 1826. It was administered in about a dozen cases. He commenced with doses of two, three, or four drops in pectoral ptisans, in the course of twenty-four hours. He never during that period exceeded six drops. The cases were principally those of advanced phthisis, and likewise of chronic catarrh. In one half of these instances relief was obtained; the cough was very evidently alleviated, as well as the difficulties attendant upon breathing and expectorating; the nature of the expectoration, however, was not at all changed. The nights were very much better under its influence, and it likewise procured sleep. In the case of a young man labouring under phthisis, the cough and fever were for a time completely subdued, but they returned, and death ensued. In all these cases other anodynes had completely failed to produce any effect, therefore there could be no better instances of success. On three of the patients the remedy did not act at all. In the majority of cases a sense of heat and constriction in the throat and stomach, and occasionally colicky pains, supervened. In one case of phthisis a very severe diarrhœa came on, and as it was attributed to the acid, it was, of course, immediately discontinued.

Monsieur Recamier is of opinion, that it exercises a very considerable influence upon the respiratory apparatus, upon which it acts as a sedative; at the same time he thinks, as others have done, that the prussic acid, more especially when it is administered in large doses, has very often the effect of irritating the mucous membrane lining the digestive canal, and, therefore, if the slightest tendency to chronic inflammation, or to an unusual state, exist, that it would be likely to prove prejudicial. Dr. Granville has found that the prussic acid acts gently on the bowels when first administered, and when after some days they seem to fall into a torpid state, the mildest medicines, and those in smaller quantities than usual, suffice to produce the desired effect, when combined with the acid. Dr. Thomson has given his opinion that the prussic acid is a most powerful and direct sedative, and that it cannot fail of proving, in the hands of judicious and scientific practitioners, a remedy of the greatest value. He confirms the testimony of Dr. Granville, of its efficacy in spasmodic diseases; he also had opportunities of trying its value in affections of the stomach, and claims the priority of introducing it as applicable to such a class of complaints. To Dr. Elliotson, however, we certainly owe the first distinct volume on the subject, though Dr. Thomson's cases, in Dr. Granville's work, show that the subject had attracted his attention. Dr. Elliotson was led to give the acid in cases of dyspepsia, during his trial with it in pectoral complaints; and certainly in the cases he has enumerated of functional disorders, he was very successful. He commenced with a single minim, and he observes,—"almost any adult will bear one or two minims; few, more than five; three are generally borne and required, and very frequently four. One woman took seventeen minims, three times a day, without inconvenience or benefit; eighteen minims brought on giddiness and vomiting."

The hydrocyanic or prussic acid may be given in vegetable infusion, in camphor mixture, in almond mixture, or in distilled water; and syrup may be added if necessary. With tonics it may be combined. Dr. Granville thinks that in pulmonary consumption a strong decoction of the lichen islandicus will prove a useful addition. It is necessary, of course, at all times to be watchful of a remedy possessing the extraordinary power that this does; and I have already pointed out to you such antidotes as may effectually relieve your patient when suffering under any of those distressing symptoms which have occasionally been found to arise. The testimonies in its favour are quite sufficient to allow you in cases in which narcotics have failed to produce their beneficial influence, as in the last stages of phthisis, to expect benefit from this, and also in those very severe cases of dyspepsia, attended with pain and tenderness in the epigastric region, where flatulence, vertigo, loss of appetite, nausea, vomiting, cough, and dyspnœa occur.

In Italy it has been employed in the cure of cancerous diseases, and likewise in different states of uterine affection, where too much irritation has been present; and in some diseases of the heart, upon which palpitation has been dependant, it has been also tried, but without any marked success. In some of those distressing states of the skin, where disordered sensation is almost intolerable, where itching occurs, it may be employed externally with very considerable utility. A lotion, containing two drachms of the acid to eight ounces of water, with a small proportion of acetate of lead and of alcohol, is most useful. In prurigo, in inveterate psoriasis, and different cutaneous affections marked by heat, by tingling, by itching, it affords great comfort to the patient.

The hydrocyanate of potash has been administered in France in the same doses as the medicinal prussic acid, but does not appear to have gained ground. The cyanuret of zinc has also been employed in Germany, as a substitute for the acid, and has been recommended there as possessing very considerable vermifuge power. Neither in France nor in this country has any experi-

ence been obtained of its efficacy, nor is the precise mode of preparing the cyanuret of zinc, as is practised in Germany, at present known. Monsieur PELLETIER has engaged himself on this subject, and different papers have appeared, from which, however, as yet no decided information for practice has been gained.

STRYCHNIA.

Several species of the family, *strychnos*, yield an alkali possessing very extraordinary power; and, although it has not been medicinally employed as a narcotic, still, from the effects it produces, when taken in sufficient quantities, I shall here point out to you some of the more important circumstances connected with it.

We are indebted to Messrs. PELLETIER and CAVENTOU for placing in our hands a new object of inquiry. In the year 1818 they obtained it from the strychnos nux vomica; since that period various other species have been examined, and have been found to yield a principle endowed with very singular powers. Amongst these the strychnos columbrina, the strychnos tieutè, which is one of the kinds of upas, the strychnos sancti Ignatii, or St. IGNATIUS' bean, are to be placed. The strychnos pseudo quina has the reputation in the Brazils of curing intermittent fevers with the same certainty as cinchona. It possesses some of the dangerous properties which mark the rest of the family, but from the analysis of VAUQUELIN we have every reason to believe that it contains no strychnine. This alkali seems in these plants to be combined with an acid, to which the name igazuric was given, but which is now commonly called *strychnic acid*.

The London College of Physicians has directed the strychnia to be obtained from the vomic nut, of which two pounds bruised are to be used with three gallons of rectified spirit; diluted sulphuric acid, magnesia, solution of ammonia, as much as may be sufficient. Boil the bruised nux vomica with a gallon of the spirit for an hour, in a retort to which a receiver is fitted; pour off the liquor, and again, a third time, boil what remains with another gallon of spirit, and the spirit recently distilled, and pour off the liquor. Press the nux vomica, and let the spirit distil from the mixed and strained liquors; evaporate what remains to the proper consistence of an extract. Dissolve this in cold water, and strain; evaporate the liquor with a gentle heat, until it has the consistence of a syrup. To this, whilst yet warm, add the magnesia to saturation, shaking them together. Set it aside for two days, then pour off the supernatant liquor. Press what remains, wrapped in cloth; boil it in spirit, then strain, and let the spirit distil. Add to the residue a very little diluted sulphuric acid, mixed with water, and macerate with a gentle heat. Set it aside for twenty-four hours, that crystals may form; press and dissolve them. Afterwards, to these, dissolved in water, add ammonia, frequently shaking them, that the strychnia may be thrown down; lastly, dissolve this in boiling spirit, and set it aside to cool.

The various stages of this process will be easily understood by you when you know that analysis has proved the nux vomica to consist of two vegetable alkalies, strychnia and brucia, which are combined with strychnic acid; and form strychnate of strychnia, and strychnate of brucia, or, as they have been called from the other name given by the lovers of hard names, the igazurate of strychnia and of brucia; besides which, gum, starch, wax, oil, colouring matter, bassorine, and lignin, are component parts. An alcoholic solution is first made, the spirit then undergoes distillation, and that which remains is evaporated, and then dissolved in cold water, and to this solution, again evaporated, the magnesia is added for the purpose of combining with the strychnic acid; the strychnia remains mixed with it, but upon adding the mixture to the alcohol that salt is dissolved. The alcohol is then removed by distillation; dilute sulphuric acid is added to the residue; sulphate of strychnia is obtained, and is allowed to crystallize; the crystals are dissolved, and, ammonia being added, it unites with the sulphuric acid, setting the strychnia at liberty; it precipitates; it is then dissolved in boiling spirit, and set aside to cool and crystallise. By such various manipulations and chemical changes the brucine and the vegetable principles are separated from the alkali. The properties which mark this alkali are its intense bitterness to the taste; according to the "Annales de Chemie" it is perceptible if a grain of it be dissolved in 80 pounds of water; it requires about 6,600 times its weight of cold, and 2,500 times its weight of boiling water, for its solution; it is insoluble in absolute alcohol, or ether; in diluted alcohol, or in boiling alcohol, it is easily soluble; it has neither colour nor odour; it does not suffer any change by exposure to the atmospheric air; its crystals are elongated octahedra; it neutralizes the acids and forms salts with them.

The strychnos nux vomica, or poison nut, from which it is principally obtained, is a middle-sized tree, a native of the East Indies, very common on the coast of Coromandel; it is described and delineated in the "Hortus Malabaricus," under the name of Caniram. LINNÆUS gave the name *strychnos* to this family, on account of the similarity of its effects to a plant which is spoken of by DIOSCORIDES and PLINY, and which seems to have been one of the nightshade tribe. The description given to us of this tree is,

that it has a short crooked thick trunk, which is covered with a smooth ash-coloured bark, the leaves are opposite, short, smooth on both sides, differing in size from one inch and a half in length, and from three to four in breadth. The flowers are small, greenish-white, and collected into small terminal cymes; the calyx is five cleft; the corolla of a pale-green colour, monopetalous; it is of the LINNEAN class and order, pentandria monogynia; LINNÆUS places it amongst the luridæ; JUSSIEU and DECANDOLLE amongst the apocyneæ; the flowers are said to emit a very disagreeable smell; its fruit is a berry, about the size of a pretty large apple, globular, covered with a smooth hard rind; it is of a rich orange colour when ripe, and filled with a soft jelly-like pulp, which contains the seeds, which are round and flat, about an inch in diameter, and a quarter of an inch thick, with a prominence in the middle, of a grey colour externally, and covered with a woolly matter, but internally hard and tough like horn. From STEPHENSON'S "Medical Botany" you will learn this and other particulars relating to the botanical character, and you will likewise find there a very good and useful figure of the strychnus nux vomica.

The nut which is used is the seed of the fruit, or of the berry; they are generally about five in number, and are imbedded in the pulp. This seed is of extreme hardness, and is pulverized with the greatest difficulty; indeed, it can only be acted on by the file; it chiefly consists of a gummy matter which is moderately bitter; the resinous part, which is very inconsiderable, is intensely bitter. The pulp of the berry, notwithstanding the poisonous properties of these seeds, is perfectly innocent, and is greedily devoured by many kinds of birds. The strychnos colubrina, or snake poison-nut, appears to differ little from the tree I have just described, and some of the Indian botanists have contended that they are identical. The strychnos potatorum, or clearing nut, appears perfectly harmless; indeed, it obtains its English name from its being used to purify water; the natives of Coromandel have taught our Indian army its use. They rub the nuts very hard for a minute or two round a vessel containing impure water, in a very short time the impurities sink to the bottom leaving the fluid perfectly clear and wholesome.

Few of the wonderful phenomena which are exhibited in the vegetable kingdom have excited greater attention and curiosity than those which are ascribed to the poison tree of Java, the bohon upas. Certain it is that there exists in the island of Java, a valley, into which every living being that enters immediately dies. The country is depopulated for twelve or fourteen miles round; the face of the earth is described as barren and rocky, intermixed only with the skeletons of men and of animals. It was DARWIN who first introduced this subject to the public, and who ascribed the terrors that invested the valley of death to the upas tree, to which he was led by a description published by FOERSCH, in Dutch. Whilst teaching botany, in attractive poetry, he naturally selected every prominent object which could be worked up into a striking picture; but it must be remembered that whilst he threw over his subjects an air of romance he never sacrificed the truth; he seized the usual ornaments to embellish his narrative, and, as the poet is allowed, he somewhat exaggerated the principal points. But that he is fully borne out in his belief of the existence of this valley of terrors, though it may not be the upas to which all the horrors are to be ascribed, is proved by a most interesting narrative that was read during the last session of the Royal Asiatic Society, and was communicated by a gentleman much distinguished in the annals of science in this country, Col. SYKES, who thinks that the deaths are occasioned rather by a mephitic vapour from the soil, similar to that which has been known to us since the days of PLINY, in the Grotto del Cane, near Naples, than to vegetable emanations. Mr. LOUDON, in a letter to Dr. HORSFIELD, the botanist, which was read at the meeting to which I allude, states, that he determined to visit this fatal valley, which Dr. HORSFIELD, when resident at Java, had not been able to do, for the natives could not be prevailed on to conduct him to the opening.

Early in the morning of the month of July, Mr. LOUDON, accompanied by the commandant of the district, Mr. STRENDENBERG, and Mr. DARNDELS, left the village of Batier for Guwo Upas, the Poisoned Valley; they took with them two dogs, and some fowls, to try experiments. On arriving at the foot of a mountain, they dismounted and scrambled up the side of a hill, fully a quarter of a mile, holding on by the extended roots and branches of trees. When within a few yards of the valley, they experienced a strong, nauseous, sickening, and suffocating smell, but, on coming close to the edge, this smell left them. They were then lost in astonishment at the awful scene beneath them. The valley appeared to be about half a mile in circumference, oval; the depth from thirty to thirty-five feet; the bottom quite flat; no vegetation; a few large (in appearance) river stones, and the whole covered with the skeletons of human beings, tigers, pigs, deer, peacocks, and all sorts of beasts and birds. The sides of the valley, from the top to the bottom, were covered with vegetation, trees, and shrubs. It was now proposed to enter the valley, they lighted their cigars, and, with the assistance of a bamboo, went down within eighteen feet of the bottom; there they did not experience any difficulty

of breathing, but a sickening, nauseous, smell. They fastened a dog at the end of a bamboo eighteen feet long, and sent him in; they had their watches in their hands: in fourteen seconds the dog fell on his back; he did not move his limbs, or look round, but continued to breathe eighteen minutes: they sent in the other; he walked to where the other was lying; he then stood quite still, and in ten seconds fell on his face, and never moved his limbs afterwards; he continued to breathe for seven minutes. They threw in a fowl; it died in a minute and a half; another died before touching the ground: a heavy shower of rain fell during these experiments. There was no smell of sulphur, nor any appearance of any volcanic eruption ever having occurred, though there are two craters, at no great distance, emitting smoke.

Foersch, whose narrative was, at the time, considered too marvellous for belief, was a surgeon in the Dutch East Indin Company; he heard such accounts of the bohun upas, that he was determined to investigate the subject thoroughly, and he obtained from the governor-general a pass to travel through the country. He set out on his expedition; he did not approach nearer than eighteen miles from the centre of the valley, but he found not a tree nor a shrub; he derived all his information from an old ecclesiastic, who lived on the nearest habitable spot, and whose duty it was to prepare for eternity the souls of those who were sentenced, for different crimes, to approach the tree, and procure the poison. Malefactors who were sentenced to die, were the only persons who brought back the poison; seven hundred criminals, the ecclesiastic declared, he had dismissed, and two out of twenty only returned. Mr. Foersch saw some of these men set out on their perilous journey; one person only brought him back, at his request, two leaves gathered from the tree, which he described as standing by the side of a rivulet, of a middling size; and that five or six young trees stood near it; but no other sign of vegetation. He states that in the year 1755, during a rebellion, four hundred families settled in the neighbourhood, but were quickly reduced in number, and, obtaining pardon, the remainder returned home; he saw some of these persons, they appeared to have suffered, and described the death of their comrades as the result of poison.

There is a note at the end of Darwin's "Botanic Garden," taken from the "London Magazine," which in these days ceases to be considered marvellous, but which has been received with great incredulity. Thirteen females, convicted of infidelity, were thus destroyed;—an instrument, much like the spring-lancet used by farriers, poisoned with the gum of the upas, was inserted in the breast; the operation was performed in less than two minutes; in about five minutes they were seized with tremor, with subsultus tendinum; in sixteen minutes they were all dead. That the woorari or ourari, the destructive poison of Guiana, is prepared from some unknown species of this genus, I have no doubt, and my learned friend, Dr. Hancock, is of the same opinion. A specimen of a plant gathered by that indefatigable botanist from the mountain Convantine, on the river Parime, was exhibited at a meeting of the *Medico Botanical Society*; it is the one from which this fatal poison is obtained; though its flowers have not been seen by any botanist, it appears to be of the strychnine family. An arrow dipped in this poison, although kept twenty-five years, soaked for the space of two minutes, was inserted, by Mr. Iliff, in the thigh of a rabbit; it became paralysed, and died in a few minutes. Whether the upas tree be the sole cause of the frightful havoc made in the valley of death, it is impossible to determine; but we must not deny to Dr. Darwin the merit of great enthusiasm in the pursuit of science, as well as of poetry, and I cannot refrain from quoting the beautiful lines so descriptive of what he had read.

"Pierce, in dead silence, on the blasted heath,
Pell Upas sits, the hydra-tree of death:
Lo! from one root, the envenom'd soil below,
A thousand vegetative serpents grow;
In shining rays the scaly monster spreads,
O'er ten square leagues, his far diverging heads;
Steep'd in fell-poison, as his sharp teeth part,
A thousand tongues in quick vibration dart,
Snatch the pruned eagle towering on the heath,
Or pounce the lion, as he stalks beneath,
Or strew, as marshall'd hosts contend in vain,
With human skeletons the whiten'd plain."

Leschenhault brought from Java a vegetable poison obtained from a climbing plant, called the "upas tieute," a species of strychnos which Orfila believes to be confounded with the upas antriar; with this several experiments on animals were tried. Orfila likewise used, for the same purpose, the bean of St. Ignatius and the vomic nut, and he found them extremely energetic poisons; he regarded them as substances producing excitement of the spinal cord, on which they act by producing tetanic spasm, immobility of the thorax, and consequently asphyxia, which is the immediate cause of death. These poisons do not produce any inflammation of the texture to which they are applied; but they are rapidly absorbed, and carried into the circulation, the absorption, as Magendie has shown, appearing to be effected through the medium of the veins. Their action is exceedingly rapid when they are injected into the jugular vein; less so when applied externally, or injected into the arteries, at a distance from the great centre of circulation: their effects are slower when they are applied to mucous surfaces. This action of the nux vomica has long been

familiar to medical men, and BONETUS, in the "Sepulchretam," has detailed experiments made upon young dogs very similar in their results to those related by ORFILA. HARTMAN, LOSS, DE HEYDE, BRUNER, HILLEFELD, have destroyed various animals by such means, but the action upon different brutes seems by no means uniform; spasms, convulsions, and tetanus seem to be the usual symptoms produced; insensibility and stupor, of a very different kind from the sleep of narcotics, are to be observed.

In man, death has often been the consequence of taking the vomic nut. FRANCIS HOFFMAN speaks of a young girl of ten years of age whose death was occasioned by fifteen grains of the nut, twice taken; this was prescribed for her as a cure for intermittent fever, for which it was at one time strongly recommended. MATTHIOLUS makes mention of an old lady, who was poisoned by some cheese which had been made in the same vessel that vomic nut had been bruised. SEUTTER and others give us instances of narrow escape from death after great sufferings. A case is related by Mr. OLLIER, in the "London Medical Repository," of a young woman, who took between two and three drachms of the powder in water. Dreadful fits were the result; the two first slight, but during the third, the whole body was stiffened and straightened, the legs pushed out and forced wide apart, no pulse or breathing could be perceived, the face and hands were livid, and the muscles of the former violently convulsed. A fourth, and most violent fit, after an interval of sensibility, came on, during which the whole body was extended to the utmost from head to foot: from this she never recovered. She seemed to fall into a state of asphyxia, relaxed her grasp, and dropped her hands on her knees; her brows, however, remained contracted, her lips drawn apart, salivary foam issued from her mouth, and the expression of her countenance was altogether most horrific. In about an hour after she had swallowed the poison she was dead. In the "Glasgow Medical Journal" for August 1830, a case, marked by the same symptoms, is narrated by Mr. WATT, of that city; the quantity taken had been purchased for threepence.

Notwithstanding its powerful effects, LOSSIUS states, that he had a friend who took, with impunity, a whole nut. The Arabians are said to take, daily, one or even two nuts, as a preventive to the poison of snakes, and that this practice has been continued for upwards of two years, without being productive of any bad effect whatever.

There was a composition in some of the old German pharmacopœas, called "electuarium de ovo," which ANDREAS MURRAY styles "inconcinna farrago," composed of yolk of egg, treacle, and nux vomica, which some quack doctor had influence enough with MAXIMILIAN the First, to have inserted as a certain remedy for poison. It was proclaimed as a specific for the plague, mania, and hydrophobia, but no one could agree, as to the dose, with his fellow practitioner; a scruple, or a drachm, or even an ounce, (for BAPTISTA GEMMA gave such a dose,) was administered. As the patients always died, we know very little else of the effects produced.

In the first volume of the Transactions of the *Medical and Physical Society of Calcutta*, is a paper, read by Mr. BAKER, in October, 1823. His inquiries were directed to the nux vomica, in consequence of an accident that happened to a servant who was carrying an umbrella for an officer; he suddenly fell down in a fit; he appeared stiff and lifeless, and when raised up stood upon his heels, with the toes and feet turned upwards; the eyes remained opened, but fixed, and the jaws were so firmly closed that it was some time before they could be separated, in order to pour down some spirits of hartshorn and water; he recovered in the course of a few minutes, and soon after vomited. Mr. BAKER found the cause of the fall to be, his having taken the kuchila, nux vomica, that morning, and not having eaten any thing before or afterwards, having merely drank a little milk. He had been taking it regularly for four months; he began with the eighth of a nut, and for the last month had taken a whole nut, which weighs about twenty grains, morning and evening. It appears that it is not at all uncommon to take this dose as a preventive to hydrophobia; and a native doctor told Mr. BAKER that he knew twelve persons who were bit by dogs in a rabid state, who escaped the disease by taking this medicine. It appears to be extensively and fearlessly used, and where the first dose has been small, and has been gradually increased, it would appear that no unfavourable result has been known. The patient is always directed to take it immediately before or after a meal, for that on an empty stomach it is apt to cause giddiness, and a degree of intoxication. The seed is taken either coarsely powdered, in its natural state, or half roasted on a hot iron, changing it from side to side, till it swells out, which it does, in the course of one or two minutes.

The intense bitterness would, it might be imagined, be a sufficient reason for its not being an easy instrument of murder, and that suicides would select some less fearful means of ending life; yet instances of both are on record. In the "Magazin fur die gesammte Heilkunde," is a narrative of the result of a wager, that coculus indicus infused in beer would cause a man to walk on his head. The unfortunate man who accepted the wager, had given to him beer, in which nux vomica was thrown; he went home, and in fifteen minutes was dead,

after violent convulsions. In 1828, the wife of a man who had died in *Guy's Hospital* of hydrothorax, begged that the stomach might be examined, for that her husband had taken, some years before, nux vomica, which had produced symptoms which had been mistaken for hydrophobia; no traces, however, of any previous inflammation were perceptible.

TRIAL FOR MANSLAUGHTER.

ORGANIC DISEASE OF THE HEART, APOPLEXY, AND SOFTENING OF THE BRAIN.

To the Editor of THE LANCET.

SIR:—In one of Professor Thomson's excellent Lectures (Lect. xxx., p. 183), which are now in the course of publication in THE LANCET, there occurs the following passage:—"A person in a fit of passion, is pushed down, and dies suddenly; on opening the body, no blood is found effused in the pericardium, but there is an unsual enlargement and thickening in the muscular substance of the heart, and much blood is found effused in the brain. This might, erroneously, be ascribed to the fall; whereas it is more likely to have arisen from the impetus impressed on the blood by such a state of the heart, during the excitement of anger, being greater than the resistance of the vessels of the brain can sustain. * * * In such a case, the person who caused the fall which preceded death, must be held guiltless."

In corroboration of this position of the learned and highly-talented Professor, as also with the view of combatting an opinion entertained by the medical gentleman who, in conjunction with me, examined the body after death, I beg leave to place on record, in the pages of this very ably-conducted and widely-circulated periodical, the following

CASE.—About three months since, a quarrel originated between a party of men in this town, in which one of the belligerents, unfortunately, met his end. The facts of the occurrence, as elicited in evidence on the trial, at the county (Antrim) assizes, may be very briefly related. They are nearly as follows:—A verbal dispute, respecting some matters of trivial moment, arose between the deceased, whose name was Orr, accompanied with a comrade, on the one side, and a party of individuals, which counted five in number, on the other. Blows with the fist, as is usual in such cases, speedily followed, and Orr, after first prostrating one of the antagonist party, was himself, in turn, prostrated also. Whilst attempting, however, to regain his feet, and at about the moment when he had so far succeeded as to have obtained the semilunar posture, he was (for the evidence on this point was but imperfect) either again knocked down, or, what is more probable, he fell over of himself, from the vital energies becoming paralysed, in consequence of the hæmorrhage which must have been going on, at this moment of time, within the head. Evidence, it is true, went to establish what might have been, and perhaps was the fact, that both during, and subsequent to, the act of falling over, he received some strokes, from more or fewer of his adversaries, with both hands and feet; still, the work of destruction had, most probably, commenced before this, and was, in all likelihood, at this instant of time nearly completed. Be this as it may, he died almost instantaneously, and a verdict of "Manslaughter" was returned against three out of the four individuals, who were taken into custody. The penalty, owing to the previous rather long confinement in gaol, was the mitigated one of a few months' imprisonment.

Autopsy, forty hours after Death.

The body was but slightly rigid, and there were observed two or three small discoloured spots on the superior part of the chest, and another, a rather larger one, upon the left temple. The vessels of the scalp were unusually distended with fluid blood, and there was found an effusion of this vital fluid, to the amount of about four ounces, at the base of the brain. No fracture existed in any of the bones of the head; nor did the substance of the brain present any, the least, unusual vascularity. It may be here remarked, that the vessel or vessels from which the hæmorrhage proceeded could not, on examination, be detected. In the chest, on its right side, there existed an extensive adhesion of the opposing pleuræ, of an apparently rather old standing, together with an effusion, into its cavity, of about half a pint of bloody serum. On opening the pericardium, the heart, which was generally enlarged, was found to fill, pretty accurately, this membraneous capsule. A section of this organ displayed a considerable hypertrophy, or general thickening, in the muscular substance of both the ventricles, but more especially the left one. This latter cavity was also slightly dilated. The liver generally, but particularly its left lobe, was greatly enlarged, but normal, alike in colour and consistence. It should have previously been mentioned, that the blood in the body generally preserved its perfect fluidity.

It is here quite evident, that the fatal result was immediately attributable to the large extravasation of blood at the base of the brain, a species of lesion which has been very appropriately termed, by the philosophic M. Serres, *meningeal apoplexy*. But whence the cause, or concatenation of causes, if such there really were, which determined the meningeal hæmorrhage? Ea-

sily replied to as the question here proposed may be, from a bare reference to the greatly diseased condition of the heart, yet the gentleman to whom I have above alluded, strange as it may appear, entertained the, I must say, very shallow idea, that the hæmorrhage in question was "the effect of blows or falls inflicted on the head." An opinion formed such as this, without taking into account the surely not unimportant influence, referable to the organic cardiac disease,—an influence which must, under the high excitement of anger and great muscular action, have been called, at the moment, into very powerful operation,—was, I submit, wholly unsupported by the pathological facts revealed on the *post-mortem* inspection; and, under other circumstances, where the provocations given on the part of the deceased, together with his entire willingness to end the dispute by another immediate recourse to physical force, could not have been so clearly established, by as equally direct and respectable testimony, it most likely would, *per se*, have placed the prisoners in a rather serious position.

In my evidence on the inquest (as, for some reason with which I am not, at present, acquainted, I was not afterwards called on, by a superior court, either for its confirmation, or if necessary, upon ulterior reflection, its modification), I took the liberty of dissenting, *in toto*, from this opinion, and I did so chiefly from the very cogent reason, that it entirely excluded, without the least allusion to, an important, if, indeed, not the *sole*, link in the chain of causation. I allude to the intimate connection which has been discovered to exist between hypertrophy of the left ventricle of the heart and apoplexy, whether cerebral or meningeal. Indeed, the relationship between these two, as cause and effect, has been justly viewed by a distinguished modern writer (Dr. Hope), as one of the best established doctrines in modern pathology. The observations, too, of Drs. Macartney, Alison, and Mackintosh, with, in fact, all our best pathologists, which observations are, it will not be disputed, well embodied in the above hypothetical fact of Dr. Thomson's,—all go to confirm this most important position. Hence, in the case just detailed, the leaving wholly out of account this, to say the least, very influential item in the category of causes, which induced the fatal hæmorrhage, must appear to every candid mind, as a singular oversight on the part of my medical friend, for which, it must be confessed, I cannot at all account; and in thus laying this statement of facts, relating to it, before the profession, I beg it to be distinctly understood, that, as a humble but ardent admirer of scientific truth, I am influenced by no other motive than a sincere regard for the cause of justice, so that, in cases of a similar nature, which, it may be safely presumed, are not uncommon, the medical practitioner, whilst accurately balancing the exact amount of importance which may attach to each particular cause respectively, in operating a fatal result, will not, as in the present instance, culpably overlook this highly interesting relationship between organic disease of the heart, and apoplexy, and softening of the brain; but, when the former affection is present, will attach to it all the importance to which it may be legitimately entitled. I am, Sir, your very obedient and much obliged servant,

J. Johnston Kelso, M.D.

Lisburn, August 18th, 1837.

CASES ILLUSTRATIVE OF THE

TREATMENT OF FEVER

BY

SALINE MEDICINES.

By C. R. Bree, Esq., M.R.C.S.

In The Lancet of October 1st, 1836, I inserted three cases illustrative of the effects of the administration of saline medicines in morbid conditions of the blood. Since that time I have followed a similar line of practice in numerous cases, where I had reason to fear an actual or a threatened deterioration of the vital fluid. The able experiments of Dr. Stevens have proved that in fevers of a congestive character there is a deficiency of the saline constituents of the blood, and from this fact we may fairly assume that there is a disposition to this change in fevers of a milder form; and, hence, we may form a rational *prophylactic* mode of treating these diseases.

There can be no doubt about the usefulness of saline medicines in fever. Few cases are ever treated without them; but it was not until the work of Dr. Stevens was published, and the powerful aid of chemistry in modern days directed attention to the alterations produced by disease in the constituents of the blood, that their *modus operandi* was clearly understood. It is not improbable that many lives are saved by saline medicines, in the treatment of simple fever. We all know the tendency which fever of the mildest form has to assume a typhoid character, and we have every reason for inferring that we prevent this by imbuing the system with saline matter, a deficiency of which, as is exemplified in Asiatic cholera and congestive fever, is incompatible with existence.

It is impossible, however, to lay down any fixed rules for the treatment of fever. An improved system of therapeutics has shown that diseases of all kinds must be treated, not according to the name they bear, but in

accordance with the symptoms they present. Thus, mercury is one of the most useful medicines in the majority of fever cases; and it would be culpable to omit in the treatment so valuable and well-established a remedy. This renders it difficult to assign to each medicine its particular and just value. It appears to me, however, that the most rational way of treating disease is to *unite* as much as possible the powers of known and efficient remedies. Thus, saline medicines may *check* morbid alteration in one case, and *prevent* it in another, and the powerful aid of mercury in either case, by acting upon the secretion, may promote the absorption of the medicine into the system.

In the following cases, therefore, I have treated the disease according to the symptoms that presented themselves. I do not wish to attach more value than it deserves to the influence of the saline medicines, but merely to relate, briefly, the cases as they occurred, and draw attention to the principle by which my treatment was directed.

Case 1.—*Synochus.* S. H., ætat. eight, was attacked on the 25th of May with pain in the head and abdomen, succeeded by cold chill, restlessness, heat of skin, and other symptoms of fever. Bowels costive; pulse 120; urine high-coloured and scanty; tongue white and furred. To have *jalap* and *calomel* gr. xij. immediately, and, the bowels being relieved, *nitrate of potash* gr. vj. in four hours.

26. Pain increased; face more flushed; skin hotter. Bowels not having been relieved freely, I ordered the following:—R. *Sulph. of magnes.* ʒiv; *Ipecac. wine,* ʒiss; *Sp. of nit. æther,* ʒiss; *Saline mix.,* ʒj; *Water,* ʒij. M. One large spoonful every other hour; and when the bowels have been freely relieved, to take *carbon. of soda,* gr. vj., in six hours.

28. Much the same; the fever continues to run high; bowels have been relieved several times; pulse quick; abdomen tender. A cataplasm to the abdomen. Continue the *carb. of soda,* but increase the dose to 10 grains.

29. Better. Per.

31. Better. Per.

June 1. Better in every respect. The soda producing nausea, it was given in excess, with the effervescing draught, for some days, and the patient gradually recovered.

Case 2.—*Synochus.* S. H., ætat. thirty-three, the mother of the above patient, was attacked with symptoms precisely similar, on the 7th of June. The bowels being confined, a saline aperient mixture was ordered, and on the 8th she was much relieved.

June 9. Symptoms more severe; pain in the head and bones; frequent cold chills, and the heat of the body high; pulse quick and *irritable*; countenance anxious; tongue white and furred. The bowels having been freely opened, I ordered the following:—

R. *Tartar. acid,* ʒj. Divide into six powders.

R. *Carbon. of soda,* ʒiss.; *Nitrate of potash,* ʒj.; *Water,* ʒss; mix, make a draught, a sixth part every six hours, while effervescing.

10. She has been restless, and the fever runs high. The bowels confined. To have an aperient mixture immediately. Afterwards continue the saline draught, but increase the *carb. of soda* to two drachms. Let the body be sponged with vinegar and water.

11. All the symptoms are alleviated to-day. Bowels have been freely opened; the heat of the surface is reduced, and the pain in the head is less intense. Pergat.

From this time the patient continued much in the same state for about a fortnight. The case, which was protracted by an irritable constitution, was much assisted by the administration of the following tincture:—

R. *Carb. of soda,* ʒj; *Chlorate of potash,* ʒj; *Comp. cardam. tinct.* ʒvj.; *Infus. of calumba,* ʒviij. Make a mixture; a sixth part three times a-day.

Case 3.—*Typhus Mitior.* In the following cases, in which the symptoms set inwith considerable severity, mercury was found of great assistance.

Louisa R., ætat. twenty-three, was attacked on the 6th of November with cold chills, succeeded by flushing heat, abdominal tenderness, &c. She did not apply for medical advice until the 9th, when I found her in the following condition:—She complained of severe pain and throbbing of the head; the surface of the body was extremely hot, and the abdomen tender; the tongue was loaded with brown fur, and the gums were covered with sordes; pulse 160, small, and rather hard; she had been vomiting and purging all night; the stools were dark-coloured, and very offensive; she has had frequent cold chills, and complains of pain in the back and loins.

Nov. 9. Six leeches to the temples.

R. *Mercury with chalk,* gr. iij.; *Acetate of morphia,* gr. 1-12th. Make a pill, to be taken in four hours. To take also the effervescing tincture, with 10 grains of soda in excess, every four hours.

10. Better. Pergat.

11. Better. Pergat.

12. Better; tongue clearing, and the fever has much abated; the pulse is also reduced. Omit the pills. Continue the soda mixture.

13. Continues to improve.

14. Better in every respect; the bowels are regular, and the colour of the motions is more natural. She gradually recovered, without any alteration in the treatment, and was well in three weeks.

Case 4.—*Typhus Mitior.* J. G., of Wetherden, ætat. six years and a half, was attacked on the 12th of July, 1837, with cold chills and drowsiness. I saw him on the 15th, and found him labouring under the following symptoms:—He was lying in bed in a stupid state; his skin was hot, his face flushed, and he complained of pain in the back part of his head; his lips seemed to move involuntarily; his breathing was 31 in the minute; pulse quick, and 130; tongue white, and covered with minute red points; bowels confined.

July 15. Apply four leeches behind the ears; afterwards a canthar. blister to the neck; and a spirit lotion to the head. To have jalap and calomel, 15 grains immediately, and when the bowels are well opened the following powder:—

R. *Nitrate of potash*, gr. v.; *Carb. of soda*, gr. x.; every four hours.

17. The pain in the head is relieved, and he is more collected.

19. Complains of pain in the abdomen; the tongue is covered with dark fur; skin still hot; pulse quick; bowels regular, but motions dark. Let the body be sponged with vinegar and water.

R. *Merc. with chalk*, gr. xij.; *Dover's powder*, gr. vj. Mix; make six pills. One every night and morning. To have *carb. of soda*, 10 grains, in mint-water, in three hours.

21. He is better. Pergat.

24. Tongue much clearer; head relieved considerably. He is very weak, but the febrile symptoms are diminished. Let him have mutton broth. Omit the pills.

R. *Carb. of soda*, ℥ij; *Chlorate of potas.* ℈j.; *Infusion of columb.*, ℥ss. Mix; one table-spoonful three times a-day.

Under this treatment he has been gradually improving up to the present time.

The next case occurred in the same parish, at the same time as the last; the symptoms in this case, it will be observed, are somewhat different.

Case 5.—James Steward, ætat. five years and a half, was attacked with symptoms of fever a few days before I saw him, which was on the 13th of July, when I found him labouring under the following symptoms:—

13. Skin extremely hot; face flushed; had frequent cold chills; abdomen tender; bowels very loose; tongue white, with red points. Three leeches to the abdomen; afterwards a cataplasm.

R. *Merc. with chalk*, gr. xij.; *Dover's powder*, gr. vj. Make six pills. Take one every night.

R. *Carb. of soda*, ℥j.; *Nit. of potash*, ℥ss.; *Ipecac. wine*, ℥iss.; *Rose syrup*, ℥iv.; *Water*, ℥vj. Mix; take one table-spoonful in four hours.

15. He is better to-day; the leeches bled well, and the epigastric pain has been much relieved; skin cooler; tongue moister; and has only two motions daily. Continue the pills. To have *carb. of soda*, gr. x., in four hours.

He continued the above treatment until the 24th, without much change in the symptoms. On that day I found him as follows:—Tongue brown, but moist; pulse 120; complains of pain in the epigastric region; is occasionally very thirsty; bowels regular; motion light coloured; he has cough, and complains of weakness. Let him have mutton broth and light pudding. Apply a cantharis blister to the epigastrium.

R. *Carb. of soda*, ℥ij.; *Chlor. of potash*, gr. xv.; *Orange syrup*, ℥ss.; *Infusion of columb.*, ℥vj. Mix; take a table-spoonful three times daily.

Aug. 10. He has been gradually improving up to the present time, and is now nearly convalescent.

The last two cases occurred in the parish of Wettenden, and may be taken as examples of the character of thirteen other cases which I have had in the same parish during the last six weeks. The only fatal case was that of a little girl, nine years of age, which was complicated with severe inflammation of the bowels. It was the first case that occurred in the parish, and, as too often happens, the friends neglected to call in medical advice in the early stage of the disease. The typhoid symptoms ran high; there was constant diarrhœa and sickness, which rendered it difficult to keep medicine on the stomach, and the child died before the end of the week.

In the autumn of last year I had a great number of cases of measles, in which their symptoms had a strong tendency to assume a typhoid character. I treated them upon the same principles as the above cases of fever, and with gratifying success. The disease was invariably preceded by diarrhœa, and the eruption was frequently ushered in with symptoms of congestion and collapse, and I found the chlorate of potash (which is a decided stimulant) very useful. The following cases will illustrate my method of treatment:—

Case 6.—*Rubeola.* S. K., ætat. two years, had diarrhœa, attended with febrile symptoms, for a week. The eruption of measles then appeared, and was out when I saw the child. I found it weak and feverish; the tongue exceedingly red, with a furred patch down the centre; pulse very quick; breath fœtid; motions dark coloured; lips and gums covered with sordes.

R. *Mercury with chalk*, gr. xij.; *Ipecacuanha*, gr. j.; *Compound chalk powder*, gr. xij. Mix, and divide into four powders; one night and morning.

R. *Carbonate of soda*, ℥ij.; *Chlorate of potash*, gr. x.; *Syrup of ginger*, ℥ij.; *Water*,

℥ij. Mix; take two small spoonfuls every second hour.

Under this treatment the child gradually recovered.

Case 7.—*Rubeola.* E. M., ætat. one year and a half, had the measles severely, which left it in a very debilitated condition, with ataxic fever, diarrhœa, foul tongue, and sordes on the lips and gums. I ordered the following, under which it gradually recovered:—

R. *Chlor. of potash*, gr. xv. ad xxx.; *Aromat. confect.*, ℥j.; *Carb. of soda*, ℥ss.; *Orange syrup*, ℥iij.; *Infus. of orange peel*, ℥iss. Make a mixture. Take two small spoonfuls three times daily.

I have kept records of many other cases, but as they are, in a great measure, similar to those related, I should only occupy space unnecessarily, were I to relate them.

Stowmarket, Aug. 15, 1837.

ANIMAL MAGNETISM.

EXPERIMENTS OF BARON DUPOTET.

To the Editor of THE LANCET.

SIR:—On the 17th of this month I was invited by a friend to accompany him to see the experiments of Baron DUPOTET DE SENNEVOYE, at *University College Hospital.* I had witnessed the performance of the snake-charmers in India, and of the necromancer of Grand Cairo so often described. I had seen something of what were called the remains of the Psylli in Egypt; and had reduced all these, to my own conviction at least, within the limits of natural causes, and laid an account of them before the public in a magazine conducted by a friend*. As a professed unbeliever in whatever is not proved, I felt not disinclined to add "Animal Magnetism" to my subjects of scrutiny; and this disposition was increased by the circumstance of my daughter having told me that some years ago she was introduced to the Baron at Paris, and proved an impracticable subject, and of my having been lately applied to from the country to consult an eminent physician in town on a case of epilepsy, from whose conversation I had gathered much interesting information on the power of the imagination over epileptic affections, which I could not help surmising I should see confirmed and extended. Add to all this, that I am some relation to Dr. Alderson of Hull, who, I believe, was the first man that exploded the existence of apparitions, by demonstrating that the seeing of apparitions is symptomatic of a certain state of disease; and you will perceive that I was in many ways pledged to not allowing myself to be misled through want of the sceptical virtues. I will therefore offer you the best account in my power of what I witnessed, and the inferences I was disposed to draw; trusting to have credit for having done it in a spirit of fairness throughout, and without the smallest intention of giving pain to any individual.

On our arriving at the hospital, the medical officers, with their pupils, were going their rounds in the men's ward. Though invited to accompany them, I preferred remaining near the head of the stairs, where I had a more general view. In a short time the Baron arrived, a plain, intelligent, unassuming-looking man, with a resemblance, it struck me, to Mr. Vigors the member for Carlow. I was shown at a distance, in the women's ward, a girl, apparently walking with difficulty, who was stated to be one of the patients on whom the experiments of the Baron had been made; and shortly afterwards another arrived, who, from the attention she attracted, I soon found was the patient *par excellence*, the *prima donna* of the "magnetic" stage. When the medical men had finished in the men's ward, they came into the women's, making, with the visitors, something more than twenty; besides which there were eight or nine women patients in the ward, apparently convalescents or with slight complaints, and two or three women attendants.

The first-mentioned girl was invited to seat herself in an arm-chair in the middle of the ward. She was apparently about twenty years of age, with dark hair, heavy look as if suffering under the effect of some soporific drug, an in-patient of the hospital on account of epileptic fits, and I suspect had partially lost the use of the left side from causes connected with that complaint. The Baron proceeded to draw his hands downwards before her face, sometimes alternately and sometimes both together, in the manner which I believe is pretty generally known as making part of the "magnetic" process. After about a quarter of an hour, the patient was asked how she felt, (the Baron, by the way, not attempting English except under circumstances of urgency,) and on her replying that she thought she felt "a little sleepy," the experiment was declared unsuccessful; though it was intimated that more effect had been produced on a previous occasion. I began to think I was the infidel before whom nothing was fated to be seen.

The other young lady then sat down, with no reluctance, but on the contrary that appearance of self-complacency which attends on conscious eminence in any line. She looked about seventeen years of age, with fair complexion and a profusion of flaxen ringlets, Grecian features and in fact eminently handsome, figure short and slightly inclining to Lord Byron's dislike,

* See No. I. of "Tait's Edinburgh Magazine," article "State of Magic in Egypt."

ankles rather stouter than the Venus's, hands large and red, that looked like vouchers for honest labour; to all appearance in the bloom of youth and health, and manifestly of the temperament the French would call *sensible et coquette*, but an out-patient of the hospital for epileptic fits, and with (as afterwards appeared) a seton in the back of her neck, in part process of cure. If I were to hazard a conjecture, I would say she was neither servant-girl nor sempstress, but the daughter of an artisan or small tradesman, who scrubbed her father's stairs, washed his linen, and did the rest of the hard work of the house, but still lived in the state of freedom and enjoyment which attends on a condition so comparatively fortunate. From the downcast direction of her eyes as she sat, they could not be calculated on for indicating sleep; but her fingers played with her shawl, in the manner of a person who does not quite know what to do with her hands, which showed her to be awake. The Baron proceeded with the waving motion of his hands. I cannot say positively whether he ever touched her face, but he might possibly sometimes touch it slightly, or the surrounding curls; and he certainly touched the *gigot* sleeves, in a way which she could not fail to be conscious of. Once also,—*honi soit qui mal y pense*,—in a later stage of the performance, he touched her knee, through the clothes, with the point of the fingers of the flattened hand held horizontally, as if he was intending to keep up an electrical communication. The patient appeared disposed to doze, and lean back in her chair; in doing which, she several times complained of hurting the seton in her neck, which temporarily roused her. In about five minutes she began to rub the left eye with the back of her hand, and then the other, rubbing with both hands at once with considerable violence. At the intimation of the Baron, somebody told her to open her eyes, and she replied pettishly, "I can't—I can't." Some of the medical attendants opened the eyelids by force, and they closed again. The Baron then intimated that he would restore her to vision; and this part of the proceedings I watched with much curiosity. It appeared to me, that he applied the thumbs and forefingers of both hands at once to the interior angles of the eyes, and then drew them from the nose outwards, pressing against the edges of the bones of the orbits; and this he did rapidly, twice. The patient immediately rose from her chair and opened her eyes, looking about her with a winking and embarrassed manner, as if waked out of sleep. I describe what I saw; and the only comment I can make upon it is, that up to this period there could not be said to be any distinct evidence, beyond the assertion of the patient, for the reality of the effects purported to be produced.

She sat down without the smallest appearance of reluctance, for the continuation of the experiment. Her fingers at first played with her shawl as before; but in three or four minutes the motion of the fingers ceased, and first one hand and then the other fell down as in sleep. She soon began to lean to her left against the Baron, who, I must say, supported her in a very handsome and artist-like manner, by taking hold of her elbow with one hand, continuing to wave the other before her face. In about a minute more she raised herself, with a kind of convulsive effort to inspire the greatest possible quantity of air,—which the Baron received with a *là, là*, as a man who knew perfectly what was coming,—and then she made a prolonged expiration, with something between a sigh and a sob, and fell across the arm of the chair on the other side as if dead. To preserve the *bienséances* she was laid out upon the floor, and her head and shoulders were propped on a machine provided in hospitals for that purpose. The muscles appeared entirely relaxed, the limbs remaining in any position into which they were put; and in fact, with the exception that her colour continued slightly flushed, she presented the appearance of a recent corpse. The doctors proceeded to pinch her hands, each harder than his predecessor, and forced snuff up her nostrils at an unmerciful rate, as each surmised his rappee was stronger than his neighbour's; but all without producing any token of sensibility. A young artist present could not help exclaiming, "What would I give if she would remain in that position for twelve hours, that I might sketch her!" and truly a painter with a Cymon, might have racked his imagination a long time for so good an Iphigenia. The next process was that of shaking and shouting her name in her ear. This at first produced movements of impatience, such as I think I have witnessed in the cases of epilepsy which fall more or less under every body's notice; and once she made that motion which is so frightful to the friends of epileptic patients, and resembles an effort to shake off an invisible enemy,—the

——"si pectore possit
Excussisse Deum,"——

of the Roman poet. At last our youthful Pythoness began to speak:—

"Tunc sic orsa loqui vates:"——

The first words she uttered were, "O why should blushes dye my cheek?" and the next were a poetical aphorism of no doubt equal impressiveness, of which I only collected that the burthen was "a sigh."

——"Et talia fata,
Conticuit."——

But after being again "well shaken," she spoke again and said, "I won't be turned out, as I was before, for the servants to

laugh at;" which was explained by somebody saying, that on a former occasion when she had been subjected to the same experiments, she fancied that the servants (I suppose of the hospital) laughed at her. On continuation of the shaking process, she began to relate, by starts, some occurrences in her neighbourhood which had impressed her imagination as ridiculous; I surmise,

"Obscuris vera involvens:"——

She said, "There was a man went mad, and he jumped out of bed without his clothes and ran into the street." Another shake produced, "I thought how droll it would have been, if he had run into a meeting of old quakers." Next came, "He said that Mr. Hall (the apothecary, I suppose, that ought to have kept him in bed) wanted to get at his wife." And finally, "He called Mr. Hall an old gallipot-scraper." All this was said in the low, quiet tone of people that talk in their sleep, intermixed with laughing. Some of the women present remarked, "That's exactly all what she talks in her fits." The Baron now began to try what he probably considered as his *tours de force*; but these appeared to me to be failures. He retired to the extremity of the ward, and I understood the effect was to be that the patient was to come to herself; but nothing of this kind was produced. He then signified that he would take another individual by the hand, and while he held his hand, the patient was to make to that individual rational answers. It was tried, and, sure enough, the patient replied; but not to the point, and always upon one subject. The individual whose hand was taken by the Baron, was a pupil who it appeared had charge of the department of young ladies with setons in their necks, and his voice invariably caused her ideas to recur to the dressing of her neck, and she replied to him, half coquettishly and half pettishly, "Get away. Do "you know how much you hurt my neck? "If you hurt me so, you shall never come "near me again." I thought the young man seemed rather disconcerted by the duty he was put upon. After something more than an hour had elapsed from the time when the patient "sighed away her soul," the Baron intimated that he would restore her to consciousness. What he did this time, appeared to consist in bringing his two hands within a foot of her face, and waving them two or three times across the face, from the nose outwards, in directions at right angles to that by which the first symptoms had appeared to be induced, saying at the same time, with as much of English pronunciation as he could muster, "Get up." The patient immediately rose, and looked about her with the same winking and embarrassed air as before,—took the arm of the young pupil, as Terence would say *quàm familiariter*, and disappeared in the matron's room; after which I saw her no more, till, chancing to be detained by rain at the vestibule, I saw her going out, apparently nothing the worse; and as I was asked if I would see the experiment renewed the next day but one, I suppose she was perfectly ready for the repetition.

And now I come to the impression made on me in the way of explanation. I entirely give up the idea of collusion on the part of the patient; she was much too pretty and light-hearted to be the instrument of a cold-blooded and painful fraud. To say no more of the pinching and the snuff, it would have required a long drilling to teach a girl the symptoms to be counterfeited; and what would be the chance of a foreigner's finding the requisites united, in an out-patient in the University College Hospital?

The explanation, I apprehend, lies in a much shorter compass. It is simply, that the waving motion of the hands (which it is observable is as perceptible to the patient when the eyes are shut as when open, especially if the face be turned towards the light, as anybody may convince themselves by experiment with their own hands) produces an action on the brain, (akin perhaps to the dizziness produced by the sight of running water), sufficient in *some* epileptic patients (in the actual case, one out of two) to bring on a real repetition of the epileptic fit. I never felt any doubt that the patient was in one of her epileptic fits; and the remark of the women is confirmation of the identity. What troubled me, was the idea of what would become of us all if the patient never recovered, and we were brought before the coroner that sat on Mr. Cocking. How the recovery was brought about, I admit to be the mysterious point; but if we will only keep our wits about us, and not be run away with by admiration of the marvellous, we must be on the point of finding out the whole. The fact already ascertained, I maintain to be, that certain motions before the eyes, produce a cerebral affection, capable of inducing epilepsy in certain states of predisposition. There is nothing in this more wonderful than in many other facts established by experiment. For example, a few weeks ago I experienced for the first time, what I remember hearing the servants talk of when I was a boy, that certain patterns upon walls and furniture produce giddiness. I was in a room at the Albion, and found the walls turning round. My first thoughts were of apoplexy; but the recollection of the servants' assertion came to my relief. The paper on the walls was a crimson ground, with something like serpentine columns in white, reaching from the floor to the ceiling. Now if so slight a circumstance can produce a cerebral affection in a person of strong nerves and free from disease, there seems nothing unreasonable in

believing that a wavy motion before the eyes of a weakly patient, may produce a *sui generis* effect upon the brain, which in epileptic habits shall have a tendency to produce recurrence of the fit. It appears to be merely a question of experiment. An honest scepticism does not consist in refusing to believe that a cause *A* may produce an effect *B*, if experiment proves them to be connected; but in refusing to believe anything without competent proof.

Another point of circumstantial evidence in support of the absence of collusion, I think I see in the following. Though not medical, I have enough of general information to know, that one of the first symptoms by which cerebral affections in general demonstrate themselves, and particularly in women, in consequence probably of the greater contrast with their previous habits, is a diminution of the ordinary restraint on language. It takes place in insanity, in drunkenness, in the delirium of opium, and in epileptic fits which are only another form of cerebral affection. Everybody knows that when ladies faint, there is a hustling away of gentlemen; which is not so much on account of the necessity of cutting laces, as for fear of what might be said by the patient during the temporary suspension of restraint. The purest-minded woman upon earth, might talk of her innocent preferences, her state of health, or many other subjects on which witnesses would not be desirable. Now I submit that in the case described, there is just so much of this kind of evidence as goes to establish the cause assigned. It is out of the range of probability, that a foreigner should have been able to instil with effect into the mind of a hospital patient, that precisely such and such a departure from her ordinary restraint in language and conversation, would best keep up the character she was to assume. I therefore conclude it to be more likely that there was a real affection of the brain.

One inference would appear to be, that the cerebral irritation which induces the epileptic action, at least of the artificial kind, is attended with no pain. It may even be attended with soothing and agreeable sensations; as in the case of a little girl of my own, of four and a half years, who always requests to be "tickled" to sleep, the "tickling" consisting in somebody drawing their hands lightly over her face, which invariably sends her in a few minutes to sleep. Various questions of importance may also suggest themselves. If there is a process that removes the artificial fit, will it lead to a way of removing the natural one? And what is to be the effect of the artificial fits upon the patient? Epilepsy is understood to be confirmed by habit; is then the repetition three times a week of the artificial fit, to go towards confirming the habit, or may it have a tendency to act as a *vaccine*, and prevent or modify the natural disease? It has been asserted in some of the newspapers, that the patient described has had no recurrence of her natural fits since the artificial practice. If this be so, there appears something like an exhaustion of the epileptic tendency.

I have not witnessed any repetition of the experiments, but I have heard the accounts of a person in whom I have confidence; and as nothing but sheer imbecility can prevent the immediate ascertaining whether the main facts are correct or not, I shall take the liberty of alluding to them under that reservation. He says he saw the process tried on a girl of fourteen (whom I surmise I recollect), an in-patient in the hospital, suffering under what the doctors called "ecstatic delirium," left behind by a fever. She was exceedingly violent and abusive, assailing the Baron with the common-places she had heard employed against foreigners, which fortunately he did not understand; but after the "sigh" which would appear to be a general symptom, she came out a quiet, timid, orderly little girl, answering with great propriety to everything which was said to her. If this be so, the artificial cerebral irritation whatever it is, would appear to have a tendency to quiet delirium. An effect of the same kind, I think has been asserted to have been produced on maniacal patients, by turning them in what our forefathers called a whirligig. The patient whom I saw, is also described as having approached much nearer to rationality during the access, or to have had the fit in what may be called a diluted state. As one instance, I understand that when pestered with questions in her ear, she attempted to rise and make a manual defence; which reminds me, that when I saw her, she, either by accident or design, gave a sound cuff to one unhappy questioner. Does the artificial stimulus, then, wear out, or alter its effect by repetition? And does this wearing-out modify the results, and so produce different phenomena in the patient? All these seem among possible things, and all seem to be determinable by attention and care.

What appears to be the subject for regret, is, that instead of pursuing the connexion between causes and effects with scientific caution, it should have been chosen to attempt to envelope the whole with the name of a new and mysterious science, and invest it as far as possible with something of the supernatural. I cannot help avowing, that unless it was considered as a necessary compliment, the medical men present seemed to lean to the side of the question which they ought not; in short, there was a little of a *gobe-mouche* spirit abroad. For instance, some of the questions they asked were in the highest degree unwise; not only as implying the expectation of supernatural or extra-natural responses, but as having a

direct tendency to act as what counsel call "leading questions." Take for example, "How many more times must you be magnetised before you are able to see with your eyes shut?"—which my informant seems to think was afterwards extended to asking her how long it would be before she could tell what o'clock it was by a watch held to the pit of her stomach, to which, after much teazing, she appears to have held out something like a promise of hope. At the same time it is but fair to say, that these questions may have been put at the direction of the Baron, and have been considered as an essential part of the trial of his process. And in one view, good may result in the end. The alchemists might obscure science on the whole, by the wild and mystical view they chose to take of the operations of nature. But their most irregular flights had still a certain chance, of discovering useful materials for the cooler heads of future generations to work upon.

My hope therefore is, that some medical person will take up the question with the advantages of professional knowledge, and will steer a just course between credulity on the one hand, and a sickly dread of discovering new truths upon the other, though concealed under any imaginable mass of the fantastic and the unsound. My old relation would have found it all out in a week; if a maniacal patient had not kicked him to death. Truth can never be too soon secured, nor error too quickly got rid of. Fifty years ago, it is probable that some useful physiological facts which will now be elicited, would have been seized on by scientific men if the whole subject had not been contrived to be involved in the mystical and the ridiculous. And what is there we might not come to now, if the reins were given to the supernatural and the unproved? Think only what a combination in politics might be made out of "Animal Magnetism" and St. Simonianism; or various other amalgams which will suggest themselves to the reader. I am, Sir, your obedient servant,

London, August 28, 1837. T.

INQUEST
ON A
FEMALE INFANT FOUND DEAD.

To the Editor of THE LANCET.

SIR:—My attention has just been directed to the letter of "JURIDICUS" in THE LANCET of the 19th inst., relative to a recent inquest upon the body of a female infant, at which inquest, after making a careful post-mortem examination, I attended to furnish the necessary medical evidence. Whilst I thank my unknown champion for his able and successful vindication, I feel bound, in justice to the coroner and myself, to state, that the newspaper reports of the inquest were abridged, imperfect, and disjointed, neither giving a fair summary of my evidence, nor of his, the coroner's, charge to the jury, as will fully appear if you will kindly find a space for the following copy of my notes of the post-mortem examination, and of what I remember of the coroner's remarks:—

Notes.—"There were several superficial wounds on the trunk and arms; the lips and tongue were much swollen and discoloured; there was a mark round the neck as if that part had been tightly compressed; the scalp on the left side was exceedingly tumefied and discoloured; the left eye was very much swollen and bloodshot; the left side of the face also presented a bruised appearance; the naval string, which had been properly tied and cut, was shrivelled, putrid, and partially detached.

"I noticed that some blood had oozed from the nostrils.

"On proceeding to make an internal examination I found the lungs fully expanded and crepitating in every part; portions cut from each lobe, floated buoyantly in water. The heart contained a moderate quantity of *coagulated* blood. The stomach was empty. The intestines did not contain meconium, but a considerable quantity of feculent matter of a pale-yellow colour. On examining the head I found the left parietal bone much more yielding than the right; towards the centre it was completely bruised, or, rather, crushed; there was a considerable coagulum beneath the dura mater, corresponding with the injury of the bone and the contused scalp; there were, also, large coagula at the base of the brain.

"I considered that this child had not only been born alive, but had lived many hours, and that death had been caused by a severe fall or blow: from the appearance of the body at the time I examined it I should suppose it had been dead about forty-eight hours."

Now, to the professional reader, it will be very evident that in coming to the conclusion that this infant "had not only been born alive but had lived many hours," I did not rely materially upon the hydrostatic test, be that test valuable or worthless; although the absence of all tendency to decomposition, and the full expansion and free crepitation of every part of each lung, presented appearances which were wholly different from those of the lungs in a state of putrefaction,—from the wholly-collapsed and liver-like fœtal lung,—or from the partially-collapsed, partially-expanded, and, perhaps, also highly-congested lung of an infant that had respired once or twice imperfectly, and then ceased to exist.

I attached more importance to the absence of meconium, and the presence of fæces, exhibiting the ordinary appearances of those

excretions during the earlier period of lactation, especially as, although the stomach was empty, the contents of the small intestines had a milky, chyle-like admixture, with evident portions of curdy coagula.

The circumstance, however, which struck me most forcibly, and which I urged most strongly upon the attention of the coroner and jury, but which the newspaper reports leave unnoticed, was the condition of the *funis*, which was shrivelled, putrid, and separating, the cicatrix of the future navel being evidently in the course of formation, as it would usually be found in an infant of two or three days old.

I may also add that I believe that it is the opinion of our best writers on medical jurisprudence, that the blood of the still-born foetus is found in a fluid state, whilst in the present case the blood contained in the heart was fully coagulated. The coagula within the cranium have been already noticed.

My letter has extended to such a length that I can only add, briefly, that the coroner, when the serious character of the case became evident, went at great length into the facts bearing upon such cases; that he said that this was one of great suspicion, and that the condition of the navel string was a very important fact for the jury to bear in mind, at the same time that the fact of the infant's previous life, and its violent death, did not necessarily infer the perpetration of criminal violence, as the skull might have been fractured by a fall, the throat compressed by the navel string, &c. &c. He did not make his remarks with regard to the floating of the lungs, in offensive contradiction to my evidence, but said that, in itself, it was not to be relied on, as children might breathe, and die shortly afterwards from spasm, &c., or putrefaction might influence the specific gravity. Altogether I may say that he put all the facts, *pro* and *con*, before the jury, leaving them to draw their inferences, merely stating that if they brought in a verdict, "Found dead, with marks of violence," it would leave the affair equally open for future judicial investigation, as if a verdict of "wilful murder" were returned, which he rather deprecated as giving an *eclat* to a transaction which a future disclosure of facts might not bear out. I remain, Mr. Editor, your obedient servant,

SAMUEL BYLES.

Church-street, Spitalfields,
August 28, 1837.

CORRESPONDENCE RESPECTING THE

STOWMARKET PENNY CLUB.

To the Editor of THE LANCET.

SIR:—Your correspondent, Mr. Bree, is evidently very desirous of bringing to a speedy conclusion, a controversy originating in the gratuitous *personalities* with which he thought proper to assail me—and a "most lame and impotent conclusion" he would make of it; but I cannot allow him to shuffle out of it so quickly. Having fixed him upon the horns of a dilemma, he must permit me to indulge in a few comments upon the serio-comic position he now occupies.

For anything in the shape of "inuendo" which I may have advanced, I beg to refer Mr. Bree to his own conscience, assuring him that I am perfectly aware of his immaculate proceedings in the affair at Wetherden, and he had better leave to Dr. Kay the task of defending himself from my charge of gross misrepresentation. For the present I shall content myself with observing, that the proceedings in that affair were entirely *ex parte*, and disgraceful to all the persons concerned in hushing it up. Should Dr. Kay and I ever come to issue on that subject, the Doctor will have discovered too much of the want of power, if not of *will*, in Mr. Bree, to require the evidence of Mr. Charles Robert Bree before a Committee of the House of Commons. What will Dr. Kay think of Mr. Bree's discretion or consistency, who, after furnishing him with such a laudatory account of the operation of the Stowmarket Penny Club, was so besotted as to send forth to every corner of the earth, through the medium of THE LANCET, a lachrymose lamentation that I, forsooth, had prevented him from committing the unnatural act of Burking his own offspring—the darling little club-footed bantling, "his love child," as the old women called it, a thing that he had nursed, and nurtured, and *defended*—and held up to the world as his first-born prodigy? Whether this, his truly-begotten, were stout, hearty, well favoured, and well clothed; with plenty of *penny-pieces* in his new breeches pockets; a jolly, thriving young dog, as he represented him to Dr. Kay;—or a little, dirty, snivelling, down-looking, tattered *sans culotte*, whom he "damned," and "wished at the devil," yet surely it would, as I have said, have been a most unpaternal act to strangle his own offspring. True, it was a poor thing, but it was his own,—a thing for which he had conceived so strong an affection, that, even while he was pregnant with it, he went through Stowmarket and the thirteen adjoining parishes, hat in hand, begging from door to door, to supply the needful to bring it forth. But perhaps, after all, this avowed design of Burking his brat was only a similar *ruse* to that played off at Woolpit Swan, through the instrumentality of Mr. Spencer Freeman. (See LANCET, Sept. 3rd, 1836, page 778.)

To conclude, with the seriousness which the importance of the subject demands. It is in terms of high eulogy, and in the very tone of triumph, that Dr. Kay has vaunted

to his employers and to the public, "the opinions of Mr. Charles Robert Bree and other highly-gifted and distinguished members of the medical profession;" but Mr. Bree, being the only person named—he being the head and front of this noble phalanx—stands amenable to his profession for the aid he has thus rendered to Dr. Kay, and to those who, like Dr. Kay, would not only trample under foot all that is most honourable in the profession, but would, also, convert its members into the supple tools of a *detestable tyranny!*

I am, Sir, yours, very respectfully,

J. BEDINGFIELD.

August 23, 1837,
Medical School, Stowmarket.

MEDICAL ETIQUETTE AND PRACTICE AT LIVERPOOL.

Dr. O'DONNELL presents his compliments to the Editor of THE LANCET, and begs his insertion of the following statement:—

On Monday, the 31st of July, Mr. A., a gentleman, 45 years of age, was attacked with complete retention of urine. He sent for Dr. O'Donnell, who promised to attend him as soon as he had dined, but neglected to do so. In the course of the evening, Dr. S——y and Dr. Macrorie were sent for. They attempted to pass instruments, but failed. On the following morning a bougie, *it is said*, was passed into the bladder. This, on being withdrawn, was followed by a pint, or nearly a pint, of urine. The remainder of the day was passed without any further evacuation of the bladder. Wednesday passed in the same manner. Thursday, Friday, and Saturday the same. During these days various purgative and diuretic medicines were given, glysters were attempted, the warm bath was used, and three applications of leeches, in parcels of 16, 18 and 12, were made to the abdomen, but no attempts were made to pass any instruments into the bladder. On Saturday, in the afternoon, Dr. O'Donnell was again sent for; he found the patient, Mr. A., in a very distressed situation. The bladder was so distended as to fill up the whole of the lower abdomen, on all sides, and to reach up as high as the navel. He was tossing about, covered with perspiration, and complaining of pain in his back, and all over his belly. His pulse was 130; his tongue dry, with a broad brown streak down the centre. Catheterism was tried, and failed. Dr. O'Donnell now told the patient that his bladder was full of urine, and could only be relieved by puncture, and that no time was to be lost; that he (Dr. O'Donnell) would not meet Dr. Macrorie, and, therefore, that the best thing that Mr. A. could do would be to send for Mr. Manifold, or some other operating surgeon, who would at once see the necessity of acting. Dr. O'Donnell called on Mr. Manifold, in the course of the evening, to know if he had seen the patient, and what had been done. Mr. Manifold then informed Dr. O'Donnell that the patient was extremely distressed that he, Dr. O'Donnell, would not attend him; upon which Dr. O'Donnell stated that he had no objection to attend the patient, but that he would have nothing whatever to do with Dr. Macrorie.

Shortly after, Dr. O'D. and Mr. M. met at the patient's house, when it was stated to the patient that Mr. M. was willing to meet any of the parties in attendance, but that Dr. O'D. would not. The patient then declared that he had no wish whatever to have Dr. Macrorie, and that he had never had any wish to have any person but Dr. O'D., if he would attend to him. About this time the patient had a severe rigor. The bladder was punctured, and 56 ounces of urine drawn off. This urine, on being allowed to cool, deposited a large quantity of mucus, and was, on the following day, extremely putrid and offensive. In the course of the night the urinary fever subsided, and, on the following day, the tongue was clean, and the pulse at 70. The operation was scarcely terminated, before Dr. Macrorie arrived; he complained that he had been extremely ill-used, &c., &c. He stated that he had long known that it would be necessary to puncture the bladder, but had deferred doing so, hoping to succeed by other means. Since this time, now sixteen days ago, the bladder has been punctured four times, and each time a large quantity of urine, mixed with mucus, taken away. Leeches have been applied to the anus and perineum, warm hip baths, opiate and febrifuge medicines, exhibited. It has since, Dr. O'D. hears, been stated by Dr. Macrorie, that he has been extremely ill used, and that the practice pursued was extremely unskilful, and that there was no necessity whatever to puncture the bladder; that if the patient should die, an inquest would be held; and that if he should recover, Dr. O'Donnell should be brought before the Medical Association.

This short statement is put forth to give Dr. M. an opportunity of reconciling the difference in his own statements, and justifying his practice.

THE LANCET.

London, Saturday, September 2, 1837.

THE senate of the new metropolitan university—the University of London—is now, in all probability, employed in preparing the curriculum of studies to be pursued by such students as may desire to present themselves for examination before the members of that institution. The publication of this ordinance, and particularly of that portion of it which must relate to medical education, cannot be delayed for any lengthened period. Indeed, the plan of the gentlemen who compose the senate must now be nearly matured, and its appearance is anxiously awaited by all the members of our profession. This curriculum ought to form the commencement of a new era in the history of education in this country. We have suffered severely under the monstrous abuses which have prevailed in our old and aristocratic institutions, and we earnestly hope that the new university, the offspring of Reform, true to the principles which gave it birth, will, at once, adopt a large and liberal plan of medical education, rejecting the sordid and absurd restrictions which abound in the system so pertinaciously adhered to by its predecessors. The rejection of this essential principle of its existence, the very first attempt to countenance any one of the abuses which have hitherto encumbered science and repressed the genius of our youth in this country, will prove an act of self-destruction to the new institution.

Without intending, on the present occasion, to pass in review the entire system of medical education, or to expose to view the whole of those errors in legislation which the senate of the London University is called upon to avoid, we shall enter, at some length, on the most prominent points of consideration in discussing this subject, dividing them under three heads, namely, the complete abolition of the certificate-system; the expediency of conducting all examinations for medical degrees in public, and the necessity of making all such examinations strictly practical in their nature. The gross dishonesty and hideousness of the certificate-system do not supply us with new topics of debate, but the individuals to whom it is a source of profit, cling with such tenacity to this fountain of emolument, this means of aggrandizement for themselves, and of mental and pecuniary despoliation of their pupils, that we return to the charge with freshness and vigour, for the recovery of such an instrument of avarice and mischief from the hands of the monopolists. Time, in such a contest, increases in utility the warfare which it despoils of novelty.

We have said that the certificate-system is a fraud, unblushingly imposed upon the acquisition of knowledge. It is rendered a double fraud by its inventors and supporters. Not content with throwing every obstacle in the path of the student which can be there heaped—that path being already of itself sufficiently difficult and painful—these robbers presume to dictate to the student the precise spot on which he shall expend his time in obtaining instruction, and then, in that convenient place for plunder, sell to him an adulterated article at a most exorbitant price! The absurdities with which the system abounds are thus fully equalled by the injuries which it inflicts. Nothing can be plainer than this to the senses of disinterested observers. Knowledge, being a mental acquirement, independent of all *fashion*, and, like the mind itself, incorruptible, may be obtained with equal advantage, at all times, and in all places, provided a fair opportunity of acquiring it exist. Knowledge is not a coat with which any fool may invest himself, provided the garment be made by the court tailor. Knowledge will not spoil during its conveyance from one part of the kingdom to another. Some of the brightest ornaments of science have ever laboured in seclusion, and produced their discoveries far from the

ravenous haunts of those plundering certificate-mongers who would persuade us that light can only emanate from their own foul lamps and dull windows. It is an intolerable presumption in any set of men (and what a set!) to announce that all truths are valueless that do not proceed from certain oracles which, with a mock solemnity that inflates whatever is empty and flimsy, are labelled and inscribed "Recognised Lecturers." To those Gamaliels, say they, you must "pay all that is demanded; "be not anxious about the doctrines which "they teach, and the facts they may disclose; simply behave with decorum in "their presence for four years, and then "obtain from them, in exchange for your "money and time, certificates of the expenditure of both, and we will admit you "to examination before our Court,—a concession which will be granted on no other "terms. It is useless to urge the fact that "one of you may obtain a competent knowledge of medicine in half the time that "another, a less gifted individual, will occupy in acquiring some vague notions "of the science. *A* may make himself master of mathematics in a few months, while "*B* cannot get beyond the *pons asinorum* in "as many years; still, it is a principle of "the old and venerated institutions of this "country, to compel both of these men "previously to pass an equal number of "years in the study of mathematics, "and that principle must be upheld, or the "fountains of knowledge will be dried "up altogether,—or, at any rate, the "poor and needy will, by study and exertion, take honour and profit from the rich "and well-born, whose especial interests it "is the duty of all well-wishers of the "country and its glorious constitution to "protect." Thus the youth of small means is kept in his "proper station," and the son of the wealthy man is provided with a profession, and a means of emolument equal to a high condition of life, while the leeches who are employed in sucking him, are odiously entitled and regarded as a part and parcel of the "ancient and venerable institutions of the country;" and are enriched by frauds on the pocket, and impositions on common sense, while medical science, like a cabbage-stalk in a garden, is fixed to the soil, and rendered one of the meanest objects in creation.

And this is especially the plan which is enforced against *medicine!* the first and worthiest of the sciences. Nothing analogous to the monstrous scheme is to be found in the history of any other of the sciences, or discovered in the proceedings of any other of our corporate bodies, bad as are their arrangements. Take, for example, the Universities; what might the public be expected to say of either of the Colleges at Cambridge and Oxford, were they to announce "that they would admit no student "to pass his entrance examination unless "he brought proof of having been educated "at Eaton or at Harrow, at King's College "or at Winchester?" Or, if the authorities deferred testing his actual attainments in the dead languages or in mathematics until they had become assured that such attainments could be alleged to have been acquired at certain favoured institutions in Wales? What would be the immediate effect of such a law, were the authorities of the above named Colleges to enact it? Unquestionably to confera monopoly of education upon the preparatory schools which we have named. Yet the authors of the certificate system have the boldness to tell us that they are actuated in their proceedings solely by a desire to promote the public good, and that the measures which they adopt have no tendency whatever to the creation of a monopoly. No monopoly was there, forsooth, in Dublin, when the favours of the College were conferred solely upon apprentices; none in Scotland, where a student must inhale the frigid air of "auld Reikie" for twelve months continually, before he can present himself at the University for the degree; or in London, where, not to mention old-standing abuses, the Council of the College of Surgeons, not content with their

occupation of examining students, must needs take to examining the lectures themselves, before "recognition," with the ostensible purpose of "recognising" none but "competent" men, but with a fixed determination of keeping the *coterie* of lecturers compact and snug. The fact is, as regards the latter proceeding, that lecturers had become too numerous, and pupils too scarce; the fees were distributed amongst too many instead of being pocketed by the few; the gentry at the College became alarmed; a council of war was held, and the remedy to which we have just alluded to was proposed and adopted.

We shall not now dwell upon the effect of the certificate system in keeping up the enormous fees which medical students are compelled to pay for attendance upon lectures and upon hospital practice. The "res "angusta domi" argument could have no effect on the hardened and unprincipled abettors of all that is corrupt in the present system. Little care they for the biting privations which youthful students may have to undergo in order that their friends, the dealers in "tickets," may fare sumptuously every day. Were we to ask one of these men "what is a certificate, or why is it en-"joined?" his answer would be, that "a "certificate is a piece of paper which "proves the diligent attendance of the pupil "on the lectures of his teacher, and, more-"over, insures the competency of the "teacher, because none but men of emi-"nence are authorized to grant it." Yet it is an indisputable fact, that the certificates, four times out of five, certify to a falsehood. There is not a pupil in London who is ignorant of their real value,—who does not know that they may be obtained without the *ennui* of attending the prosy discourses of the "recognised" lecturers; aye, or without ever having set eyes upon the ticket-mongers faces.

The excuse of insuring competent lecturers is no less farcical and fallacious. Let the pupils elect freely their own teachers. The want is theirs. Their sense is acutest for discovering the means of satisfying the hunger after knowledge. Once let the streams of knowledge freely flow, and the sources will be rapidly and correctly found. No bad teacher ever sat long in the chair of a professor, as the *freely-elected* representative of science. Or if so anxious to obtain "competent" men, let the monopolists abandon their places, and choose the professors of medicine in public institutions by concours, and then quickly, indeed, will the small fry of lecturers, of whom they stand so much in horror, quickly either disappear from the field, or merge into "men of eminence."

But, say the monopolists, "if the student "be permitted to obtain his information how "and where he likes, without furnishing "any other proof of his diligence than the "correctness or readiness with which he "may answer all questions that are ad-"dressed to him, as great an evil will be "produced as the one that is proposed to be "abolished. The pupil would thus be enabled "to pass his time in idleness for two or "three years; for if no certificates be re-"quired from him, he will merely have him-"self *ground* for the last few months, and "thus obtain a degree without possessing "an *iota* of practical knowledge." This position leads to our second point. Abolish certificates, says the medical reformer, but, at the same time, make the examination a searching inquisition, a thorough and severe practical inquiry, which no student can pass unless he have really spent the period of his education in constant attention to the essential points of the science. If "grinding" and *private tuition* be identical in operation, we admit that "grinding" would thus only change its character in one respect, namely, that the process would be one of *years* instead of *months*, continuous instead of temporary, unbroken instead of occasional,—instead of a bit for the Hall, and a bit for the College, a bit for Latin, and a bit for botany, a patchwork of education, effected by jobs. Who would not recognise the extension of "grinding" in this respect

as a most important change for the better? Under the new system young men would really become admirably instructed, either as apprentices or as free students, and be prepared at the *proper age* to undergo the ordeal of a well-conducted, practical examination. This method, as our readers are aware, has been adopted for many years in France, and experience has proved that it "works well." In that country the student, instead of being asked "How many bones compose the orbit?" "What are the origin and insertion of the biceps muscle?" (answers to which questions may be learned from any elementary work) is desired, for example, to dissect the femoral artery and its branches, to display the arrangement of the fascia of the thigh, to prepare, on the dead body, the superficial branches of the cervical nerves, &c. These proceedings evidently comprise demands upon the knowledge of the student which require that he should have passed many a diligent week *in the dissecting-room*. Again; the candidate should be led to the bedside of the patient, and there made to undergo a strict examination into his proficiency in medical and surgical knowledge. Would not this supersede the necessity of enforcing the certificate system, and altogether remove the interested objections which have been raised by those individuals who, with declarations respecting the "welfare of the pupil," pretend that they exact the production of certificates from him, merely for the purpose of insuring a constant attention on his part to the business of instruction?

The examination of a candidate for a medical degree having been made a thoroughly practical one, the next step must be that of insuring its publicity, against which the only plausible objection that has ever been urged, is founded on this supposition, that the exposure of the candidate to such a test might operate unfavourably on his feelings, by exciting the bashfulness and timidity of youth at an inappropriate time, and prevent many students from giving utterance to the knowledge which they really possess. But this argument is altogether ap[illegible] Were the character of the examinatio[illegible]ve made known to be strictly practical, and dates would be prepared to an exten[illegible]ed in a manner, so widely different from [illegible] present one, that they would feel fo[illegible] to meet a becoming inquiry, and con[illegible] in the power of reply,—the natural result of a consciousness of possessing knowledge. Besides, medical students really are not timid beings in any situation which circumstances have habituated them to occupy. Moreover, publicity would inevitably preserve them from the insolent brow-beating, and the brutal and dastardly insolence, to which they are now successfully subjected at such places as "Apothecaries' Hall," and English candidates for diplomas and degrees would come forward with the same readiness, and the same degree of confidence as distinguishes the medical students in France, when they are placed in similar circumstances. We have often asked foreign graduates, what effect a public examination has upon their mind and feelings, and the answer has invariably been, "The "amount of fear was very trifling, because "we had already seen so many others pass "the ordeal with success."

But a public examination is a very great stimulus to exertion. No student would think of presenting himself as a candidate for a degree until he was thoroughly prepared to enter on the practice of his profession; and such persons as had already acquired some little fame in the paths of science would double their exertions to support their reputation. Events have repeatedly established this fact. No one would consent to disgrace himself before a crowd of proud and anxious friends and relations, by exhibiting proofs of ignorance similar to those which, from the *known* laxity of the investigation, are too often displayed before the Courts of Examiners in the British capitals. The question there with a student may most naturally become, not with how much preparatory information he shall enrich himself, but with how little he shall

occasion. In making these remarks we are not necessary in the fields of mere declamation or self-defence. We declare only that which is simply true. Never, indeed, were results which might be anticipated, by theory, or from any system, more fully verified by facts, than have been the consequences of the schemes of the medical monopolists of this country. No astronomer ever prophesied more truly the effects of physical laws in the celestial world, than might the present condition of English medical education and practice have been foretold as a result of the ticket and certificate system. Nor ever was prophecy more correctly fulfilled than will this forewarning be verified—that the abolition of the present system will insure for medicine the highest station among the useful sciences, and for medical practitioners the first rank among the professional members of the community.

UNIVERSITY COLLEGE HOSPITAL.

CITRIC ACID AND OTHER REMEDIES IN CASES OF PURPURA, OCCURRING IN ADULTS AND CHILDREN.

Dr. Elliotson this week took occasion to make some remarks on comments attached to the report of a case of purpura occurring at this hospital, and inserted at page 777 of the present volume of The Lancet. He merely wished to add to the observations which he had made on the case in question, that his experience of lemon-juice as a remedy in purpura, held good with regard to children as well as to adults. He had seen a very large number of cases of purpura occurring in children. The writer, who had commented on his case, spoke of having seen five or six cases in Paris, and that they were all treated by citric acid with success. Now, he (Dr. E.) had seen a large number of cases, very many more than five or six; and having an idea at one time that purpura bore a very great similarity to scurvy, he had given citric acid in several cases; his experience was, that citric acid was of no more use in this disease when occurring in children, than when it happened to adults. Now, to reason on the point. If this medicine was of no benefit in adult cases, why should it be of benefit in those of children? If we possess a medicine which has a kind of specific power in any disease, it is of the same benefit both to adults and to children. Quinine cures agues in both, so syphilis, in both, is cured with mercury; so itch, in both, is eradicated by sulphur. Whatever is good to the adult is, if given in proper doses, good also to children in the same disease, particularly if the medicine possesses a kind of specific power in the particular malady. As he had said before, the only relation scurvy had to purpura, was the presence of the purple spots, for opposite plans of treatment were adopted, and found beneficial in the two diseases. Who had ever known a case of scurvy cured by extensive bleeding, as instanced in the case which had given rise to these observations, and in which the patient was better and stronger after losing 150 ounces of blood, than he was previously. He believed scurvy was never treated in this way. Again, in the purpura of children, the same kind of treatment was successful, whilst the disease was increased by those remedies which were most successful in scurvy. He, last spring, attended a young gentleman with purpura hæmorrhagica, in whom there was a great number of spots; he had tenderness of the abdomen, and a discharge of considerable quantities of blood from the intestines; his pulse was full. He had not suffered either from bad living or impure air. He was bled in the arm, took diluents, and was kept on the lowest diet; he got well, though he was obliged afterwards to have leeches applied to the abdomen on two or three occasions, and turpentine injections once or twice. When he had got quite well, he feasted on venison, turtle, and other rich things, and the disease immediately returned. The spots again appeared, and the abdomen became tender. He (Dr. E.) gave him gruel and water to live on, had leeches applied to the abdomen, and the youth again got rapidly quite well; he is now in good health, but is kept on moderate diet. This case displayed a character totally opposed to scurvy. The gums, too, were not affected in purpura, as they were in scurvy. Many in purpura might, indeed, accidentally have spongy gums, as many people have when their teeth are not kept clean and well brushed; but not to the extent observed in scurvy. With regard to lemon-juice in purpura, it might be observed that many children, who had the disease slightly, might, and did get well with one or two doses of moderately purging medicine; he had found Epsom salts and colchicum the best purgatives in these cases. Now, if lemon-juice happened to be given at the same time with other medicines, it was said to have done good. Many cases, again, yielded of themselves, and thus mistakes regarding the efficacy of medicines were made. So, in hæmorrhage, acetate of lead, in one-grain doses, mixed with infusion of roses, was administered by some

practitioners as a specific; the hæmorrhage ceased, and the medicine was said to have effected the result. Yet the practitioner would give only one-grain doses of the acetate of lead, and not without the infusion of roses, by which an insoluble powerless sulphate of lead was formed. There was a tendency in some diseases to cease of themselves, and particularly hæmorrhage, and so the character of the lead and sulphuric acid was sustained. Purpura, too, was not only every day cured by remedies which did harm in scurvy, and was not benefitted by citric acid, but arose in persons who lived well, and it might be mistaken for scurvy. The case in THE LANCET occurring in the child, was undoubtedly scurvy, and was mistaken for purpura. "On stripping and examining the child," says the report of the case, "we find the body marked by a number of small spots, of a reddish-purple colour, occupying chiefly the abdomen and lower extremities. These spots bear some resemblance to flea-bites, but are of a darker colour, and do not yield under pressure. In addition to these spots, which are extremely numerous, *the left thigh* and the middle part of the left leg, *present two large spots of a deep violet colour, and nearly as broad as crown pieces.*" Again, "*a part of the gums appears to be fungus and bleeds at the slightest touch.*" Now, in purpura, the thighs were not particularly affected; but he (Dr. E.) never saw a case of scurvy in which they were not; the spots were large and the substance often hard. The state of the gums was a mark of scurvy not of purpura. It must also be remembered, that this child was placed on good diet, "good soup" being ordered for it. Now, most cases of purpura in children would be made worse by such good diet, and most cases of scurvy benefitted by it, without a drop of lemon-juice. He (Dr. E.) felt satisfied there was a mistake in the diagnosis of the case in question. He (Dr. E.) was convinced, that if the other cases of alleged purpura were really benefitted by lemon-juice, that they were, like the one related, instances of scurvy. Purpura, also, is often a symptomatic affection in continued fever, in diseases of the heart and lungs, without any affection of the gums, or the other marks of scurvy. In fever it is not a dangerous symptom, and often accompanies mild forms of the disease; and, when accompanying either fever or pectoral disease, is not the better for lemon-juice, but yields, in the former case, to antiphlogistic remedies, if the fever requires them, and to a diminution of the load of blood in pectoral affections. In nine cases out of ten of idiopathic purpura, low diet and purgatives, and even loss of blood, are the successful remedies; whereas plenty of fresh animal and vegetable food, with good fermented fluids, soon cure scurvy.

CORRESPONDENCE.

Mr. Wilkinson's and *Dr. Keate's* communications have been received.

The communication marked "Private," from Wales, has been received, and the suggestion shall not be forgotten.

The request contained in the private note of *Mr. C.* shall be complied with. The circumstance relating to the drawing has escaped our recollection, or we would with pleasure explain it.

A Life Governor should direct his inquiries to the parties who had the disposal of his subscription. His appeal to a journalist should be made only after the refusal of accounts, or the misapplication of funds, has become ground of complaint.

Jabez. The man is a dunce, and not worth notice. He bungles at every thing. Were he a barber he would begin to dress wigs at the pig-tail.

A Constant Reader. No prospectus has been published, but it is most probable that practitioners of established repute will not submit to the conditions of the curriculum.

If *A Young Student* be desirous of obtaining the licence of Apothecaries' Hall, he must comply with the regulations which were issued in 1835.

As the case described by *Scrutator* occurred in private practice, we cannot insert the comments which he has made on the treatment, and the alleged neglect.

The result of the case related in the communication from Kegsworth was so very obvious, that it is not worth while to publish any part of the communication, but the following extract, and that only for the sake of showing what incorrigible fools are sometimes to be met with in the world:—"A young man, with natural weakness of sight, was recommended to bathe his eyes with urine. Although suffering under an attack of gonorrhœa at the time, this did not deter him from adopting the prescribed remedy. He bathed his eyes with his own urine. A violent attack of gonorrhœal or purulent ophthalmia followed the application, which, notwithstanding the most active treatment, rapidly produced disorganization of the eyes, with consequent loss of sight. The symptoms commenced immediately after the application."

ERRATA.—In the case of chorea, p. 781, line 2, for Dr. Cheyne "assures me," read *assures us.*

In the remarks appended to Mr. Crisp's cases, p. 769, line 8, for "*had* been obstructed by calculi for a considerable period," read *have been.* Line 11, for "The symptoms clearly *pointed* out," read *point* out. The two verbs should obviously, from the context, have been printed in the present tense.